ILLINOIS

May, 1943

In This Issue

Official Program

ANNUAL MEETING ILLINOIS STATE MEDICAL SOCIETY
PALMER HOUSE, CHICAGO, MAY 18, 19, 20, 1943

Treatment of Shock From War Wounds

Recognition and Treatment of Surgical Shock

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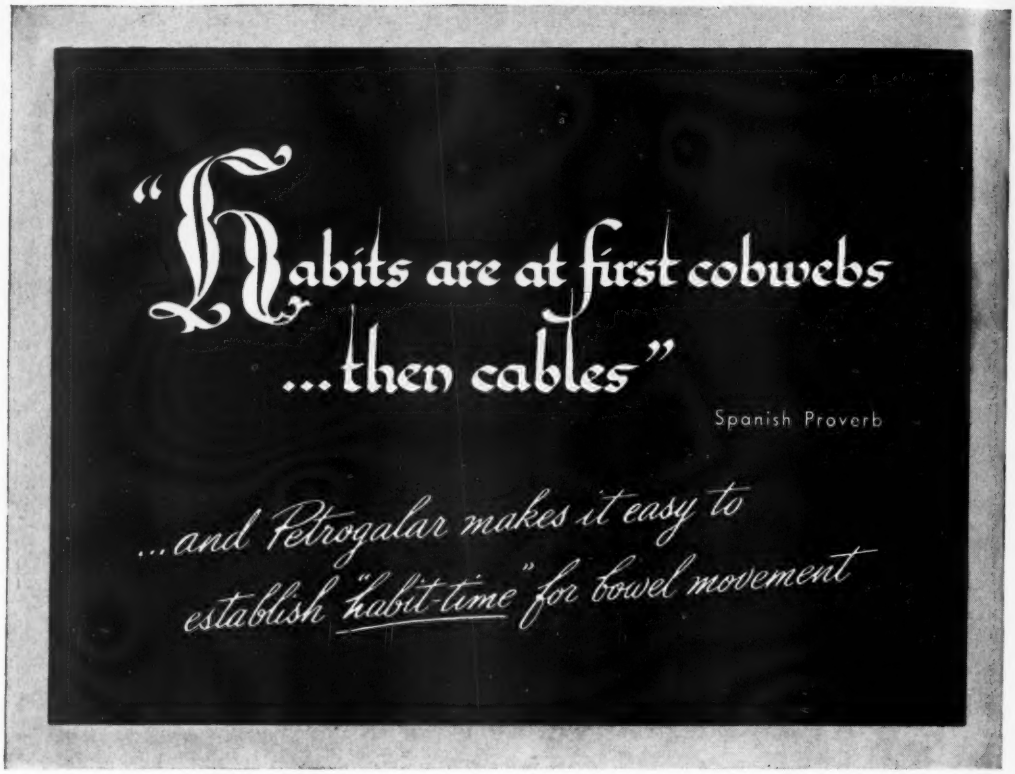
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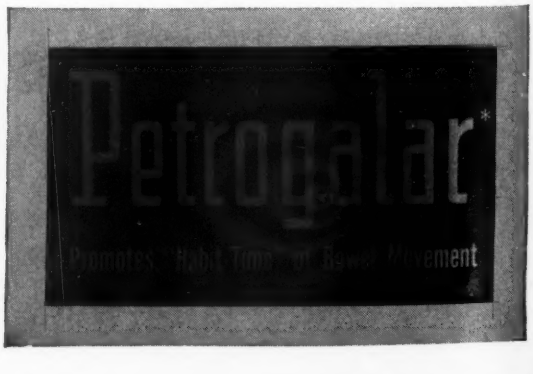

Entered as Second-Class Matter July 21, 1919, at the Post Office, Oak Park, Illinois, under the Act of March 8, 1879. Acceptance for mailing at special rate of postage provided for in Section 1102, Act of October 8, 1917, authorized July 15, 1918. Office of Publication, 715 Lake Street, Oak Park, Ill.

The Illinois Medical Journal

May, 1943

VOL. 83, NO. 5

Official Journal of the Illinois State Medical Society

EDITOR — Harold M. Camp. EDITORIAL BOARD — James H. Hutton, Chairman, Frederick H. Falls, Josiah J. Moore, Edwin M. Miller, Chauncey C. Maher, Harry S. Gradle, Philip H. Kreuscher, Harry Culver.

Editorials

WE'LL SEE YOU AT THE ANNUAL MEETING

The official program for the 1943 annual meeting to be held at the Palmer House, Chicago, on May 18, 19, 20, is published in this issue of the Journal. Even though some three thousand Illinois physicians are now in service with the armed forces, the program has been arranged to make it particularly interesting to all physicians remaining in civilian practice. More time is to be devoted to joint sessions with members of all sections participating, and there will no doubt be many physicians present in uniform.

Although a number of important meetings are to be held on Tuesday morning, May 18th, the meeting opens officially at 1:00 p.m. Each section will hold individual meetings that afternoon. Among the morning sessions are the meetings of the Central States Society of Industrial Medicine and Surgery, with the Chicago Society of Industrial Medicine and Surgery; The Physicians' Association, State Department of Public Welfare; Illinois Society of Pathologists; and the Illinois Chapter of the American College of Chest Physicians.

The Oration in Medicine will be delivered Tuesday night by Dr. James E. Paullin, President-Elect, American Medical Association, Atlanta, Ga., and he will have a message that will be of intense interest to all physicians.

The annual Secretaries' Conference will be scheduled as a dinner meeting and will be held Tuesday evening, May 18th, at 6:00 o'clock. An interesting program has been arranged and this should be of interest to all society officers as well as to the members. The Veterans' Service Committee will hold their annual dinner conference on Tuesday evening also, and their program will be of much interest at this time.

Wednesday and Thursday morning sessions are scheduled as joint meetings with all sections participating. A glance at the programs arranged for these joint sessions will show how carefully each has been planned, and they will be of interest to all physicians present.

The Oration in Surgery will be presented by Dr. W. D. Gatch, Dean and Professor Surgery, Indiana University School of Medicine, and will be delivered at 11:00 A.M. Wednesday, May 19th.

The annual luncheon conference of the Fifty Year Club has been arranged carefully and is scheduled for Wednesday noon, May 19th. A short and snappy program will be presented and it is hoped that many members of this important club will attend.

The Maternal Welfare Committee likewise will hold a luncheon conference at noon on Wednesday and a short program will be presented relative to the work which has been done and is being contemplated by this important committee. Several alumni groups will also

have their luncheons Wednesday noon, and details will be found in the official program.

Wednesday evening, May 19th, the annual President's Dinner will be held in the Grand Ball Room of the Palmer House. This dinner honoring the retiring president of the Illinois State Medical Society (with our past-president as guests) will be an outstanding feature of the annual meeting. Colonel Carlos P. Romulo, the last man off Bataan, will give an unforgettable message to those prosent. Colonel Romulo widely known as both a speaker and author, was a member of General MacArthur's personal staff, and was closely associated with the General for some little time while in the Philippines, then later in Australia.

The usual fine array of both technical and scientific exhibits will be displayed in the large exhibit hall of the Palmer House. It is hoped that everyone at the meeting will devote as much time as possible looking over these exhibits which have been so carefully arranged to show what is being done within the profession, as well as for the medical profession. Great care has been used in the selection of both types of exhibits, and complete details will be found in the official program.

The Woman's Auxiliary to the Illinois State Medical Society will likewise have their programs presented in the Palmer House, and in addition to the several official functions which have been scheduled, a fine program of entertainment has been arranged for all ladies who are present during the annual meeting.

The House of Delegates will hold the usual two meetings, the first at 3:00 p.m., Tuesday, May 18th, and the second on Thursday morning, May 20th. There will be many important subjects presented before the House of Delegates, all of which will be referred to proper reference committees for study and subsequent reports back to the House at the second meeting.

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State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

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Original articles and membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Managing Editor, 30 N. Michigan Ave., Chicago.

Subscription price of this JOURNAL to persons not members of the Illinois State Medical Society is $3.00 per year, in advance, postage prepaid, for the United States, Cuba, Porto Rico, Philippine Islands, Hawaiian Islands and Mexico. $4.00 per year for all foreign countries included in the postal union. Canada, $3.50. Single current copies, 50 cents.

THOSE INTENDING TO BE PRESENT AT THIS IMPORTANT WAR MEETING SHOULD MAKE HOTEL RESERVATIONS BEFORE ARRIVING IN CHICAGO.

WHAT SHALL WE PUBLISH?

One of the problems of an editor of a medical journal in war time is the selection of proper material to appear in print. Many articles are received for publication, many of great interest to all readers, while others represent a limited view point or the expression of a particular hobby on the part of the individual physician. Occasionally conclusions are placed on paper after certain remedies or procedures have been tried on a limited number of patients, and the article, although well presented, may be subject to criticism for this reason.

Many manufacturing concerns dealing in supplies used by members of the medical profession have been awarded the coveted "E" by the Army and Navy. Frequently long articles are submitted for publication telling about the ceremonies at the time the award was made. Usually mention is made in the Illinois Medical Journal, although we cannot publish the material as submitted.

Releases are received each day from various Governmental agencies for publication, ranging from directives governing the selection of physicians for military service to releases dealing with war gases from the Office of Civilian Defense. Efforts have been made to publish those of greatest interest, but frequently they must be presented in abstract as the original copy may cover a dozen pages.

The Illinois Medical Journal has a capable Journal Committee and an Editorial Board which meets frequently to discuss the policies relative to the publication of these articles. With the present-day limitation of paper stock and frequent warnings as to what may best be published, great interest on the part of those responsible for the approval of papers and other data received for publication has developed relative to short papers on timely subjects. It is not so much the fact that fractures may be treated in a dozen or more ways, each apparently equally satisfactory in the hands of those using certain methods, but the paper giving the minimum requirements in the treatment of fractures and telling concisely how various types of fractures may be properly handled without the use of elaborate and intricate appliances, is usually preferred.

The use of the sulfonamides in medicine and surgery, and the methods of their administration are always of great interest. Here again some authors submit papers pertaining to the use of these drugs in a few cases, and with definite conclusions, may not be accepted for publication.

As has frequently been stated, the papers which are of greater interest today, are short papers with a minimum or no bibliography, and which immediately get down to basic facts through the elimination of the usual preliminary paragraphs of a historical nature.

The Illinois Medical Journal desires good papers written on subjects of present day interest. Papers of this type should have no trouble being approved for publication. It is the desire of those responsible for the selection of material to be published, that the papers be short, to the point, and thereby permit the publication of more papers on a wider variety of subjects in each issue.

MAKE YOUR HOTEL RESERVATIONS!

On account of the overcrowding of the city hotels, all physicians intending to be present at the 1943 annual meeting of the Illinois State Medical Society to be held at the Palmer House, Chicago, May 18, 19, 20, should make their hotel reservations at once, and not wait until arriving in Chicago.

There should be ample room for all if reservations are made in advance, and if the hotels have the opportunity to do their own planning.

This is likewise true regarding railroad reservations, and it is advisable to make your reservation for the desired accommodations on trains as early as possible.

Pulmonary tuberculosis should always be in the mind of the physician when a patient complains of chronic hoarseness or sore throat. The chief misleading factor in the diagnosis is the apparent well being of the patients whose latent pulmonary and systemic signs were masked by laryngeal symptoms. Jos. C. Donnelly, M.D., Jour. of Amer. Med. Assn., Oct. 31, 1942.

Correspondence

THE PRESIDENTS' DINNER

Plan now to attend the Annual Dinner of the Illinois State Medical Society in the Grand Ball Room of the Palmer House on May 19th at 7:00 P.M. Colonel Carlos P. Romulo of the Philippine Army has been secured as speaker.

Throughout the Battle of the Philippines, Colonel Carlos P. Romulo of the Philippine Army fought side by side with General MacArthur as his aide-de-camp and friend. He describes that heroic struggle from the inside, with an accuracy possible only to a member of General MacArthur's staff and a vividness possible only to a brilliant journalist trained in observing the human as well as the military factors. He relates how the courageous leader of the Filipino people, President Manuel L. Quezon lived in the tunnel in Corregidor and then when weakened and ill, left for one of the unoccupied provinces in the Visayas, and later for Australia and America.

Colonel Romulo's escape from Bataan — the last man to leave that fateful spot before the surrender of the Filipino and American forces — in a decrepit old plane that had literally been fished from the bay and an obvious target for anti-aircraft guns and his dramatic flight to Mindanoa and from there to Australia to join MacArthur, are among the most exciting stories to come out of the War in the Pacific. But, it is not his own experiences, but those of the American and Filipino soldiers who died on Bataan and on Corregidor that he wants to tell, to impress upon the heart and minds of Americans here at home, so that we will come to understand the full significance of their dying.

As their comrade in arms, as a Filipino officer exposed to the same dangers and privations, Colonel Romulo tell how those men fought and died. He describes in unforgettable terms their courage and heroism against insuperable odds. No one can ever fully appreciate just how tragic and how inglorious was this first defeat in American history until he has heard the inside story of Bataan and Corregidor from the lips of this distinguished and trusted aide to General MacArthur.

Colonel Carlos Romulo was born in the Philippines, educated at the University of the Philippines (A.B., 1918) and Columbia University (M.A., 1921). He also holds an honorary LL.D. degree from Notre Dame (1935). Until the Japs came, he was the Editor and Publisher of the D-M- H-M newspapers and was Managing Director of two radio stations in the Philippines. A series of articles reporting his observations on a tour through China, Burma, Thailand, French Indo-China, British Malaya and the Dutch East Indies on the eve of Pearl Harbor, in which he predicted the imminent outbreak of war in the Pacific and exposed the fifth column activities in these countries won him the Pulitzer Prize for the best interpretive correspondence of 1941 — the first time this coveted journalistic award has ever gone to outside continental America. These articles were published in his own newspapers in the Philippines and in leading American newspapers.

As a speaker Colonel Romulo is perhaps even better known to Americans than as a writer. He was Vice-President of Rotary International and

has visited America often. In 1940, at the Rotary International Convention in Cleveland, Ohio, an audience of 14,000 stood up and cheered him in what was one of the greatest ovations ever given a speaker there. When he addressed the National Press Club in Washington, D. C. in July, he was accorded a standing ovation. Since his return to America on his present trip, he has spoken before every kind of audience and has everywhere made a profound impression.

The dinner is informal which means street clothes. Anyone other than those at the speaker's table wearing formal dinner clothes will be fined a $25 War Bond.

James H. Hutton, M.D.,
Chairman, Presidents' Dinner Committee.

PERSONAL HYGIENE IS MARINE WEAPON AGAINST TROPICAL DISEASE

(The following article was written by Staff Sergeant Samuel E. Satvisky, 60 Grove Street, Chelsea, Massachusetts, a Marine Combat Correspondent)

Somewhere in the South Pacific — The Japs may have withdrawn but the disease-exis which makes a bastian of these "tropical paradises" stubbornly hems in our jungle fighters.

The battle with disease is incessant. There are no breathers between engagements and the continuous, pitched battle against numerically overwhelming odds cannot be completely won but must be held at bay.

Cardinal tenet acquired by the Marines in their intensive training for tropical fighting is personal cleanliness. Medical and line officers repeatedly emphasize the necessity of keeping the body and clothes clean.

The battle is not peculiar — to the Marines. All the fighting forces must meet and solve the problem. But, because they are a swift, mobile force and thus can carry only essential equipment, the problem for them is more acute. Usually they carry but a single change of clothes — dungarees, underwear and socks. They may be forced to sleep in their clothes, a poncho between them and the damp soil, a pup tent sheltering them from the rain.

The way to cleanliness under such conditions, according to Navy Lieutenant Bruce W. Milligan, of Jacksonville, Ill., is soap.

"When we bivouac over night, the men soak and wash the clothes they wore that day when possible in boiling water. They are chiefly particular about socks and underwear.

"We try to assure a bath a day for the men, a difficult task at best, since we're on the go and must depend on whatever water we can find or catch in the rain.

"With soap and water applied daily we can put up a successful fight against the fungi that fester the skin and open the path for infection. Soap is also the chief weapon against flies which menace health in the tropics. Men have been inculcated with the wisdom of sterilizing their mess gear in scalding soapy and clear water before and after eating.

"Malaria is a tougher nut to crack, but with this problem, too, great progress has been made. Atabrine has proved its value as a substitute for Jap-controlled quinine, and the men take daily doses. Every jungle fighter is equipped with mosquito net, a practical safeguard against the malaria-carrying mosquitoes of the tropics.

"Besides atabrine, the daily menu includes salt tablets and vitamin concentrate to supplement field rations. When possible, the medical officers purify the drinking water by chlorination, but for emergencies, the men carry a tube of iodine to sterilize their own canteens.

"In the tropical humidity, cuts are slow to heal, organisms settle faster in the wound and cause it to fester. Such a common infection like athlete's foot, something you joke about in the states, will immobilize the infantryman unless treated. A coral cut suffered in landing operations or during swimming requires immediate attention or the Marine becomes a casualty.

"We know that disease is as much an enemy of the Japs as us, and we realize that the better we resist the disease axis, the better we fight the Japs. The men know that it is not enough to keep their rifles in perfect condition; they know that equal care must be given their bodies."

IOWA, ILLINOIS ASSOCIATION ANNOUNCES MEETING

Editor, Illinois State Medical Journal,
Monmouth, Illinois.

The annual meeting of the Iowa and Illinois Central District Medical Association will be held

Thursday, May 27, 1943, at the Watch Tower Inn, Blackhawk State Park, Rock Island, Illinois.

4 P.M. Major Lindon Seed, chief surgeon at Camp Grant, Illinois, and formerly associate professor of surgery at the University of Illinois, will speak on "The Use of Intravenous Fluids and Blood."

5. P.M. Dr. Italo Volini, professor of medicine at Loyola University school of medicine will speak on, "Clinical Observations on Heart Disease."

6 P.M. Dinner will be served at the Watch Tower Inn, followed by a social hour.

8 P.M. Dr. Charles F. McKhann will speak on "Progress in the Control of Communicable Diseases", illustrated with motion pictures in color.

As this is the annual meeting, there will be election of officers following the dinner.

James Dunn, M.D.
Secretary

CONVALESCENT SERUM FOR EYE DISEASE

"The present widespread occurrence of epidemic keratoconjunctivitis (the eye disease of shipyard workers now sweeping the country) in important industrial areas and the failure of all types of therapy (treatment) justify the focusing of attention on the use of convalescent serum as a possible means of treatment," Alson E. Braley, M.D., and Murray Sanders, M.D., New York, declare in *The Journal of the American Medical Association* for March 27.

In their preliminary reports, Drs. Braley and Sanders say that "In the present group of 10 cases, 9 showed striking clinical improvement a short time after intravenous (into a vein) injections of human convalescent serum were given. . . ."

From his experience with animals, and with a few patients treated with suspensions of sulfanilamide or sulfathiazole in soybean oil, D. Murray Angevine, M. D., Wilmington, Del., reports in the current issue of *War Medicine* that "I believe that this method of therapy (treatment) deserves a further trial in chronic osteomyelitis (inflammation of a bone) and in other types of infected wounds."

CREATE A TERM DESCRIBING THE INJURIES PRODUCED BY UNDERWATER EXPLOSIONS

"Forces generated by underwater explosions incidental to marine disasters due to operations of war have produced physical injuries which we call the syndrome of 'hydraulic abdominal concussion.'" Lieutenant Commander Lionel S. Auster and Lieutenant Commander John H. Willard, Medical Corps, United States Naval Reserve, report in *The Journal of the American Medical Association* for March 27. The outstanding feature of this condition is the forceful compression of the abdomen simultaneous with the entrance of sea water into the bowel through the unprotected lower opening of the intestines.

The two men explain that " 'Hydraulic' refers to the forces of water in motion. 'Concussion' is used in preference to the word 'compression' or any other descriptive word because we feel that the results of this unique accident are similar to those which occur in the brain or other tissues when subjected to sudden force against resistance. . . .

"The explosion (from a depth bomb) may give some manifestation in the air by blowing surface water up, but its chief effect is attained by the sudden commotion caused within a radius of several hundred yards. The surrounding water is set in motion in all directions, producing currents powerful enough to weaken the seams of steel sheathed vessels within its zone of effectiveness. Men trapped aboard a sinking vessel or, more usually, those who have abandoned ship by going overboard clothed in life jackets and swimming free or clinging to life rafts or bits of floating wreckage are subject to the water pressures generated. If the man is within a radius of 100 yards of the exploding charge the chances of survival are very slim, although we have seen cases in which a distance of less than 100 yards was reported with eventual rescue. . . ."

The authors say that examinations of the abdomens of such victims have shown the chief injuries to be intestinal hemorrhages and in some instances perforations or rents in the large bowel. The mortality rate is very high. They say that their experience has shown that supportive treatment without operation produces the best results.

Medical Economics

Edited by R. K. Packard, M.D., Chairman of the Committee on Medical Economics of the Illinois State Medical Society, 826 East 61st Street, Chicago, Illinois.

THE RETURN OF THE MEDICAL OFFICER TO PRIVATE PRACTICE

The subject assigned is, "The Return of the Medical Officer to Private Practice." Recently, I was asked to talk to a group of doctors, dentists, pharmacists and lawyers on the future of the professions. I stated then and here repeat that the future of the professions will be the future of America. It is obvious that we cannot have one plan for the professions and another plan for the public as a whole.

I assume that the real intent of this subject is to discuss what type of practice the medical officer will return to. He will return to the type of practice that we who are not in the armed forces are willing to fight for, and, unless we are willing to make a vigorous fight for his return to the type of practice he left, no one can with any degree of certainty state what type he will return to. It is impossible that even with a vigorous fight he may return to some type of planned medical care.

I have stated on several occasions that we are engaged in two wars. The first one is to defeat the Axis, and the second one is to preserve democracy in the world at large, but particularly in our own country. To make my meaning quite plain, our second war is against the bureaucrats, because I am firmly convinced that you cannot mix democracy and bureaucracy without losing the basic principles of the democratic form of government. It is quite impossible to unscramble scrambled eggs.

Read before The National Conference on Medical Service, February 14, 1943, Chicago, Illinois.

I would then state that we have two armies. The first army is composed of the men and women in the military service, whose first duty is to make whatever sacrifices are necessary to win the war against the Axis. Our second army is composed of the people at home whose first duty is to cooperate with the government to the fullest extent in producing the necessary equipment to wage a global war and the necessary food to take care of our civilian population and armed forces. One must admit the necessity of our furnishing various types of equipment to our allies, as well as food. This is particularly true of Russia, because of the great part she is playing in the war.

The second responsibility of our people at home is to give serious consideration to the type of government we are establishing during this emergency and the type of peace that we propose to participate in after the war is over. The consideration of these two problems is going to determine largely not only what type of practice the medical officer returns to, but also the type of life that our entire armed forces are going to return to, and the type of life that we are establishing or going to establish for ourselves.

If we review the developments of the last few years before we entered the war, it is quite evident that we were moving very rapidly toward a centralized form of government. It is also evident that, since the war, that movement has been accentuated. Part of this accentuation is justified as a war measure; part of it cannot be justified as being essential to our war efforts.

Before the war, our government engaged itself in a series of experiments to bring about economic and social stability. The history of those experiments does not need to be reviewed, other than to say that the end sought was not gained, and a huge national debt was established. Many believe that those experiments were not the product and thought of the men who have contributed so much to the building of America. They were the product of an inexperienced intelligentsia. The "intelligentsia" have recently been defined as those individuals who have more education than they have intelligence to use. I would not decry the right or purpose of intelligent experimentation and research. All progress is the result of experiment and research, but experiment and research should antedate the adoption of the cure-all.

That we were and are in need of economic, social and political reform is not questioned here. The question is and should be, the method of approach. The method of approach should not be the condemning of any group or the raising and accentuating of any popular cry for the common man. It should be an intelligent approach, free from discussions and actions that tend to disunite the people as a whole. Perhaps the "forgotten men" of America are those men who pioneered the very America we have. Their spirit of progress and adventure must always be retained.

It is evident that during this period of war we have moved steadily toward a bureaucratic form of government. We entered the war as not only the greatest, but perhaps the best, example of a democratic form of government, and we entered the war because we were fearful that the Axis would destroy democratic government.

It is generally accepted that the best type of democracy is the one that is the least governed. It seems plausible that the more we govern the people the less freedom they have. There have been many things that might be questioned as to the example we are setting up before the world as to our justifiable claims to being a great and good democracy.

First: We have, by various processes of rationing, with the creation of an extensive system of rationing boards and bureaus throughout the country, said to the world at large that we cannot trust our people to cooperate with the government in the prosecution of war to preserve democracy. There has been no great national appeal to the people of the United States to set an example for the rest of the world that we could and would make the necessary sacrifices without compulsion. Quite the contrary — there has been an extension of bureaus and regimentation. The question can justifiably be raised, "Would such an appeal have worked in this country?" The answer is that at least it could have been tried.

Second: In our war efforts there is a feeling among a great many that we have put military achievements ahead of democratic principles. We have criticized such action by other nations, and again the question is, are we setting an example for the democratic peoples of the world to follow?

Third: Our labor and farm problems have not been solved, and we continue to create more bureaus to make more studies. This seems to add to the confusion of the problem, and not only takes no action against inflation, but the recent program will, indeed, speed up inflation.

Fourth: We now have approximately three million people on the federal payroll, making up a long list of bureaus, many of which are conspicuous for their lack of executive dispatch and executive decision. There is no tendency to decrease the establishment of these bureaus, but, rather, a tendency to increase them with a resulting continued growth in the number of federal employees. It has been said that we have a government of the bureaus, by the bureaus, and for the bureaus. If we are looking for some solution for our manpower problem where every individual will contribute to the winning of the war, it may be suggested to Mr. McNutt that he start with the bureaus at Washington rather than in the offices and plants of our industries and on the farms. Management and industry have demonstrated their capacity to function and do the job they are trained for. Efficiency men from the various bureaus in Washington can add little except confusion to an orderly process.

Fifth: If we propose to follow the program as outlined by the State Department and advocated by Mr. Hopkins and Mr. Wallace, there seems little doubt that our bureaus will be increased during the post-war period.

For many years there has been much said by the New Dealers and certain reformers about the ill-clothed, the ill-fed, and the ill-housed in the United States. Today we hear these same people making emphatic statements that we must sacrifice more and more through the years to come in order that we may establish and maintain peace in the world and supervise not only the lives of our own people, but, to a large extent, the lives of the entire world.

Sixth: There are, in addition, evidences that the government proposes to extend the social reform, and some proposals are now under consideration. It has been stated that the President has a proposal nearly as comprehensive as the Beveridge Plan now being discussed by the British government.

Seventh: Another evidence of this bureaucratic democracy is that the voice of the people in this country has not been heeded to any great extent by the administration. This is shown by the fact that those individuals that the American people voted out of office in the last election have all been placed in more or less important positions in Washington, regardless of their quality or ability to discharge the duties of that position.

Eighth: The recent decision of the Supreme Court affirming the American Medical Association as being guilty of restraint of trade brings a new problem into the future of medicine and the type of practice our medical officers will return to. It is, in substance, a statement or decision that the ethics of the profession, if they in any way restrain trade, must give way to trade. The great progress of the medical profession in the last 30 or 40 years in improving medical education, standardization of hospitals, and high ethical standards for the practice is apparently to be disregarded, and trade allowed to flow free, regardless of its quality.

Ninth: Another consideration is the large number of hospitals that the government is building and purchasing throughout the United States today. There are many who are of the opinion that these hospitals will be maintained by the government after the war and that they will be used to supply medical care to the soldiers and to their families in the post-war period.

The future of the medical officer is such that many men that I have personally talked to are so fearful of post-war practice that they are inclined to want to stay in the government service, not because they believe that this will bring about progress in medical care for the American people, but because they think they will be more secure in the conflicting post-war period.

The question finally resolves itself to the opening statement that military men will return to the type of practice we and the American people are willing to fight for. It is somewhat obvious that in the profession and among other people there are those who fear to offer any type of criticism as regards the course we are taking. They are apparently attempting to straddle the fence and hope to fall in whichever direction seems to be more profitable to them at the immediate time.

In the final analysis there will be little to be gained by defeating the Axis and establishing a bureaucracy that deprives the people of true liberty.

Committee on Medical Economics
R. K. Packard, M.D.
Chairman

Where there is no seed, there can be no harvest regardless of the type of soil. Elimination of open tuberculosis from the community means ultimate eradication of the disease. Obviously any program for tuberculosis control must include finding not only the infectious cases but also those in the non-contagious or minimal stage of the disease. With the dramatic and popular appeal of special tuberculosis case finding, one is apt to ignore the basic principle of the epidemiology of tuberculosis. The longer and the more intimate the exposure, the greater the risk of the exposed person regardless of age level. Hilbert Mark, M.D., Amer. Rev. of Tuber., Aug. 1942.

Every hospital patient who produces sputum, regardless of his diagnosis, should at least have his sputum examined for tubercle bacilli. A tuberculosis-conscious medical staff will order more X-ray films of the chest, especially among the groups of patients in whom the disease is more prevalent. The hazard of exposure from the hidden cases of tuberculosis on the wards of general hospitals will remain until such time as fluorograms are used routinely in the admission departments. Jason E. Farber, M.D., and Wm. T. Clark, M.D., Amer. Rev. of Tuber., Feb 1943.

Medicine's Role in the War Effort

RESTRICTIONS ON USE OF INTERNS AND RESIDENTS

Because the number of interns and residents available for the year 1943-1944 will be very limited, the hospitals of the United States will have to reduce the number of such personnel to approximately 50 per cent of the number they maintained in 1940, it is announced by the Directing Board of Procurement and Assignment Service, acting on the advice of its Committees on Hospitals and the Allocation of Medical Personnel.

The following recommendations have been issued by the Directing Board of the Procurement and Assignment Service to its state chairmen:

For the efficient utilization of attending physicians, interns and residents, hospitals should avoid duplication of activities such as two or more medical, surgical or other surgical services, by consolidating such parallel services into one.

Hospitals should be requested also to arrange for the reabsorption of clinics in the subspecialties into a general clinic of the parent specialty and to maintain within the structure of the medical staff, in both inpatient and outpatient services, only such specialties as are recognized by the Advisory Board for Medical Specialties.

A hospital should not have more interns on July 15, 1943 than the number on duty on July 15, 1940 unless it can be shown that the institution's patient load has definitely increased or that other conditions exist that merit special consideration. Hospitals which have had a decrease in their patient load since July 15, 1940 should make a corresponding decrease in the number of interns.

In order to provide an adequate background for military medical service, at the completion of one year of internship, hospitals which do not now maintain rotating internships should, for the duration of the war, broaden and diversify the instruction and experience of their interns.

A physician who is eligible for military service should not be approved as an essential resident in a hospital unless the residency concerned is approved by the appropriate crediting body.

A physician who is eligible for military service should not be approved as an essential resident in a hospital for longer than a period of one year immediately following the completion of his internship. Physicians who by age, sex, physical defect or citizenship status are disqualified for military service may serve as residents in hospitals for periods varying from one to three year after internship. After this period of service such physicians, if they are to be approved by the Procurement and Assignment Service as essential, must have been appointed as full time members of the regular medical staff.

After July 1, 1943 the total number of residents permitted for the hospitals of the United States shall not exceed 50 per cent of the number on duty in the hospitals on July 15, 1940; this 50 per cent shall include those residents who are not eligible for military service, e. g. women physcians, physically disqualified male physicians, older physicians and alien physicians.

In view of the considerable number of physicians not qualified for military service who should be available for appointment as hospital residents, all hospitals should fill as nearly 100 per cent as possible for their allotted residencies with physicians not eligible for military service.

The total number of residents which a hospital may be permitted to retain shall be directly related to that hospital's teaching and service responsibilities, with particular reference to the proportion of its ward service to total service. Consideration of an individual resident should be based primarily on his teaching responsibilities and patient service load and not on any specialized service which he may render to individual members of the staff or to a particular hospital service. A hospital shall not be permitted to retain a greater percentage of the number of its residents which it had on July 15, 1940 than the percentage of its ward patient days in relation to its total patient days; except that a hospital shall not retain more than two-thirds the number of the residents it had on July 15, 1940.

Ward service is defined as service to patients who are not charged or paying a professional fee and patients who are used for teaching demonstration, if a teaching program is being conducted. In computing the service load, the volume of out-patient visits shall be given due consideration.

Primarily teaching hospitals, i. e. hospitals carrying major responsibility for undergraduate medical teaching, shall be given consideration for that service in addition to that which they receive on the basis of ward service. A hospital which has made radical changes in bed capacity or in its intern and residency plans or has lost an excessive proportion of its visiting staff since July 15, 1940 may receive special consideration in the number of residents it is permitted to retain.

The Central Office of the Procurement and Assignment Service shall determine the total number of residents to be allotted to each state and shall suggest for the guidance of the respective state chairmen the number of residents recommended for each hospital after July 1, 1943.

Hospitals which find it necessary to request permission to retain, for a residency, an intern who holds a commission in military service shall submit such request to the state chairman for physicians of the Procurement and Assignment Service, who will add his recommendations and forward it to the Central office of Procurement and Assignment Service for action by the directing board and for recommendation by the Army and Navy.

As far as possible, physicians who hold reserve military commissions for whom requests for further deferment have been made shall be assigned to residencies which will provide training of greatest usefulness in their subsequent military service, e. g. in surgery or medicine rather than in obstetrics and gynecology.

In order to accomplish these objectives, all residents must be selected from the following groups:

1. Women physicians.

2. Male physicians who have been officially rejected for commisioned service with the Army or Navy.

3. Male physicians who have been classified 4-F by Selective Service.

4. Physicians who have applied for commission in the Medical Corps of the Army of the United States or the Naval Reserve and whose deferments are being requested for the ensuing year, as outlined.

Hospitals should be instructed not to communicate with the Army or the Navy regarding deferment of reserve officers for further hospital service. Such communications should always be addressed to the state chairmen of the Procurement and Assignment Service.

PRESBYTERIAN HOSPITAL UNIT ACTIVATED

On March 19, twenty-four doctors and thirty-two nurses of the Thirteenth U. S. Army General Hospital (sponsored by the Presbyterian Hospital, Chicago) left for Camp Robinson, Arkansas, to join seven other medical officers and some three hundred and sixty-five enlisted men who had reported at Camp Robinson at an earlier date (The Journal, March 13, p. 846), thus reactivating Base Hospital No. 13, which was sponsored by the Presbyterian Hospital in service in the first world war. The commanding officer of the Thirteenth General Hospital will be Col. Lyle S. Powell, who served in the first world war in France and recently was a member of the staff of the Army Field Service School, Carlisle Barracks, Pennsylvania. Colonel Powell formerly was a member of the faculty of the University of Kansas. The other medical and dental officers on duty with the unit are as follows:

MEDICAL SERVICE

Lieut. Col. H. K. Nicoll	Capt. John Tysell
Major O. E. Gray	Capt. B. O. Nelson
Major G. W. Stuppy	Capt. D. A. Morrison
Major G. C. Turner	Capt. H. C. Breuhaus
Major C. J. Harrison	Capt. R. E. Talbott
Capt. Joseph Bennett	Lieut. R. P. Morris
Capt. James Webster	Lieut. W. L. Riker

SURGICAL SERVICE

Lieut. Col. E. M. Miller	Capt. C. E. Brock
Major L. J. Wallner	Capt. C. S. Textor
Major C. V. Crane	Capt. Cecil Draa
Major F. H. Straus	Capt. F. B. Papierniak
Major R. K. Gilchrist	Capt. H. C. Baum
Major Stanley Lawton	Lieut. F. M. Marquis
Major E. H. Fell	Lieut. W. C. Cameron
Major Arthur Diggs	Lieut. Isaac Michael
Major John Olwin	Lieut. F. A. DePeyster
Capt. S. A. Friedberg	

LABORATORY SERVICE

Major Evan Barton	Lieut. R. L. High
Capt. Franklin Moore	

X-RAY SERVICE

Capt. G. L. Pelkey	Lieut. E. S. Murphy

DENTAL SERVICE

Capt. A. R. Hanson	Lieut. A. L. Klein
Capt. J. M. Spence	Lieut. R. K. Stockton
Lieut. Richard Holic	

The chief nurse will be 1st Lieut. Nelle Crout and other nurses, when recalled to the unit, will bring the number of nurses to about a hundred. Among the enlisted men in the present unit are several whose fathers served with the original Base Hospital No. 13 at Limoges, France, from May 1918 until after the armistice was signed.

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AVIATION MEDICAL EXAMINERS

Another class in aviation medicine for aviation medical examiners graduated recently. The didactic portion of the course was conducted at the School of Aviation Medicine in Texas and the practical portion at three army air forces classification centers. Graduation exercises were held at each of the three centers. The list of graduates from Illinois are:

George Jaeger Best, 1st Lieut. Peoria; Walter August Bock, 1st Lieut., Chicago; Edward E. Cannon, 1st Lieut., Chicago; John Sheldon Clark Jr., 1st Lieut., Chicago; Wendel Rayburn Freeman, 1st Lieut., Champaign; Robert Henner, Captain, Chicago; Cletus Timothy Kearney, 1st. Lieut., Gridley; Milton Harold Partridge, 1st Lieut., Elgin; Voris Ralph Payne, 1st Lieut., Wayne City; William P. Phillips, 1st Lieut., Chicago; Robert Bruce Rutherford, Captain, Peoria; William Bernard Seamon, 1st Lieut., Chicago; Henry Fred Otto Steinbock, 1st Lieut., Villa Park; Kent Lincoln Wattleworth, 1st Lieut., Newton.

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MORE NURSES NEEDED

At a meeting of the directors of the National Nursing Council for War Service in New York, March 19, it was reported that schools of nursing throughout the country admitted 5,000 more students during the current year than they did the year before. However, the total of 49,169 is nearly 6,000 less than the quota which the nursing profession and the government estimated necessary to meet war needs.

"Since 6,000 young women who are needed as nurses are doing something else instead or taking no part in the war effort," said Katherine Faville, chairman of the Council's Committee on Recruitment of Student Nurses, "some new element must be added if we are to secure the greatly increased number of new students, 65,000, who should begin nursing educations during the school year that opens June 1. The modest government stipends for student nurses that it suggests should enable more of those qualified to enter nursing and should help meet the competition of high salaried war industry or the various military auxiliary services which offer women a soldier's pay even during training."

The school admissions figures were reported by the Department of Studies of the National League of Nursing Education on the basis of questionnaires sent to the 1,300 state accredited schools of nursing in the country. The admissions for the period June 1, 1942 to June 1, 1943 total 49,169, or 89 per cent of the quota sought. Eight states reached or passed the quotas assigned to them. They are Arkansas, Idaho, Iowa, Minnesota, New Mexico, North Carolina, Oklahoma and West Virginia. Other states which reached 90 per cent or more of their quotas are California, Colorado, Delaware, District of Columbia, Illinois, Indiana, Maine, Massachusetts, Mississippi, Montana, Ohio, Pensylvania, Rhode Island, Utah and Virginia. The New York State percentage was 86. The Committee on Recruitment of Student Nurses, now launching a heightened spring campaign, will study the areas where success was achieved in comparison with states where fewer girls entered nursing, to seek light on reasons, and to devise better methods.

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AUSTRALIA PROVIDES YANKS WITH HOSPITAL

The government of Australia, under its program of reciprocal lend-lease, has provided the United States with a new ten story hospital "somewhere in Australia" to be used by American soldiers, sailors and marines recuperating from illness and wounds suffered in the Pacific. The transfer does not involve payment of any sort. The building, construction of which was undertaken as a civic enterprise at a cost of $3,000,000, was taken over and adapted for the American forces to accommodate several times its original capacity. It is complete with laboratories, operating rooms, nurses' quarters and administrative offices. All ten stories are now being used. The main buildings are well arranged. Verandas for convalescents are supplemented by broad spaces on the roof, where servicemen gather to rest in glass enclosed rooms or in the open air. Recreational equipment is available. The new hospital is one of many Australian contributions to the United States forces in the Pacific as reciprocal lend-lease.

Australia provides most of the food for our troops on the mainland and has recently undertaken to supply food as well to American troops in New Guinea, the Solomons and other islands in the South and Southwest Pacific theaters.

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WAVES FOR THE HOSPITAL CORPS

A Hospital Corps School for Waves to be established at the Naval Medical Center, Bethesda, Md., has been authorized and construction is expected to start soon. The school will accommodate training classes of 500 students. On March 8 there were 209 Hospital Corps Waves, of whom 97 were on active duty at that time and 122 were undergoing indoctrination at Bethesda and San Diego. The Bureau of Medicine and Surgery expected another 150 on March 22, which would be assigned to indoctrination classes at the naval hospitals at Great Lakes, Ill., New York and Chelsea, Mass. Another group of 150 waves was expected from the Wave School at Cedar Falls, Iowa, on April 5.

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AT A JUNGLE FIRST AID STATION IN PANAMA

An army doctor at a jungle outpost in the Panama Canal Department is a military tactician as well as a physician, as with his help it is possible to maintain gun and searchlight positions in the jungle. The officers and enlisted men of the medical department have hacked their way through the jungle, built first aid stations and are largely responsible for the lowest malaria rate in the history of the Army in Panama. Ambulances can now reach many of these positions to bring in soldiers requiring hospitalization, while formerly litter bearers had to carry a sick man for miles. Army doctors attached to one Coast Artillery unit still must travel 225 miles a day to cover a few of the emplacements in the jungle. These officers daily look for mosquito breeding places. Continuously they move first aid stations into different positions in the jungle. A first aid station which can be packed into two trunks is built near emplacements. Emergency operations can be performed at a moment's notice in these aid stations. One jungle position for over a year has had a perfect sanitation record, and not one man has had malaria. Occasionally natives living in the jungle call at first aid stations to be treated. The dentists who visit the emplacements regularly carry their equipment in a trunk containing a folding steel chair, foot engine and surgical dental equipment. The biggest problem confronting the jungle medical detachment now is transportation. The positions are so scattered that much time is taken up by traveling.

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MEDICAL FIELD SETS DONATED TO COAST GUARDS

The Illinois Opera Guild Ferry Command and the Drake Hotel Red Cross Unit have presented emergency medical field sets to the U. S. Coast Guard at Chicago. In forwarding these sets from the Medical and Surgical Relief Committee of America in New York, Mrs. Huttleston Rogers, executive chairman, writes that the War Shipping Administration has made a request for twenty-four emergency medical field sets to be sent to Casablanca, Dakar, Cape Town, Murmansk, Trinidad and other distant ports. The Anglo-American Commission also has requested thirty-six of these units for use in the Caribbean area. The committee requests that physicians and surgeons, particularly, and any other persons who may have scalpels, splinter forceps, probes, grooved directors, scissors and other instruments of this nature send them promptly to the committee's headquarters at 420 Lexington Avenue, New York City. These instruments need not be new, as facilities are available for their repair.

The tuberculosis death rate is an excellent index of the current health of the nation. Louis I. Dublin, M.D.

The large movements of population because of the expansion of defense industries, the inadequacy of housing facilities in many parts of the country, and the accelerated work tempo demanded in many industries lead health officials in this country to expect an increase in the mortality of tuberculosis such as has been experienced in Great Britain. Last year there was a slight rise in tuberculosis mortality in New York City but in 1942 this increase appears to have halted. The number of deaths due to tuberculosis, however, is still so large that control measures should in no way be abated. Bull. New York City Dept. of Health. Feb., 1943.

SAY THAT INFECTED PROSTITUTES SHOULD BE DENIED THEIR LIBERTY

Intern Repeated Offenders For The Duration And Compel Them To Aid in War Effort, Two Brooklyn Physicians Advise

"If the state can call on a man for his life in this grave emergency, surely the common welfare demands that the 'right' of an infected prostitute to be at liberty while still infectious be disallowed, at least for the duration of the war," Hyman Strauss, M.D., and Isaak Grunstein, M.D., Brooklyn, declare in *The Journal of the American Medical Association* for April 10 in a report on their findings from a study of 615 women with gonorrhea who were hospitalized at the Kingston Avenue Hospital, Brooklyn.

"We feel," they explain, "that a prostitute, although treated, remains potentially infectious for approximately three months, during which time, if at large, she is a source of infection and as such forfeits her right to the benefit of doubt.

"The cure of an infected prostitute requires adequate compulsory hospitalization. Repeated offenders should be interned for the duration and compelled to aid in the war effort. If the law now does not adequately remove this public health hazard, as it does in most contagion, remedial statutes should at once be enacted toward that end. . . ."

The two physicians report that their "study of 615 hospitalized gonorrheal patients shows that 60 grains of sulfathiazole daily for one week gives a 95 per cent apparent cure rate. The administration of sulfathiazole or sulfapyridine to the failures increases this rate to 98.9 per cent.

"This very high cure rate must, however, be carefully scrutinized in order to determine the permanence of our immediate results. It must be ascertained in each case whether there has been sufficient treatment and an adequate period of observation.

"Furthermore, and most important, it must be determined whether the criteria of cure employed are sufficient to ensure protection of the public against further infection. The difficulty in detecting the asymptomatic (without symptoms) carrier cannot be emphasized too strongly. Health departments defeat their own purpose by hospitalizing patients to control infection and then releasing them before cure in the custody of a private physician because of an interpretation based on the present law. . . ."

For example, the two men explain that out of the group of women they studied 109 infected patients were discharged by the Department of Health by special releases before treatment was completed. Drs. Strauss and Grunstein say that "Assuming that only 100 of these 109 girls return to prostitution as a livelihood, and allowing them sixty-five days for idleness and menses, and granting the average number of daily exposures to be even less than their admitted minimum of twenty, approximately half a million men could be infected in a year while the girls are under private medical care and yet continue to practice their profession at the same time. The futility of follow-up in ambulant patients whose very livelihood depends on deliberate and persistent reexposure is obvious. When, in addition, the asymptomatic carrier is considered, the problem is complicated many fold. . . ."

The two men point out that not only would the interning of repeated offenders possibly lead to their permanent rehabilitation but also "the added cost of such hospitalization will be more than offset by considerations of health and the undoubted prevention of loss of time and efficiency in our war industries and armed forces on whom our national safety depends."

The average period of hospitalization for those women studied who had gonorrhea alone was thirty-one days and for those with gonorrhea and syphilis forty-five days. Most of them were between 20 and 30 years of age, the youngest being 16 years and the oldest 49 years.

"In our opinion," they say, "at least four consecutive negative cultures and smears should be made at weekly intervals and the patient should be clinically negative and be under a further period of observation for at least six weeks before she can be reasonably regarded as noninfectious. Additional studies will prove whether it is safe to decrease the dosage, treatment time and the period of observation. The ultimate desideratum of cure in female gonorrhea will be the failure to reproduce the infection after human exposure. . . ."

OFFICIAL PROGRAM

OF THE

One Hundred Third Annual Meeting
Illinois State Medical Society

PALMER HOUSE

CHICAGO, ILLINOIS

MAY 18, 19, 20, 1943

CONVENTION HEADQUARTERS

The Palmer House

A Personal Invitation To Your 103rd Annual Convention

Two years ago, in answer to just such an invitation, you came from all parts and sections of the State of Illinois, "four thousand strong" to register and attend your Annual State Medical Convention. You came for various and sundry reasons: (1) You had "spring fever" and you wanted a few days of relaxation free from the twinge of conscience that you were running away from a great deal of sickness and unfinished business — because you were combining relaxation, pleasure and a quest of scientific knowledge which you knew was waiting for you at your Annual Meeting. (2) You came to Chicago because you like Chicago with all that this hustling, bustling World's metropolis offers you. Chicago in May is a friendly place, and offers so much, and in such divergent variety. Are you a quiet type — A lone wolf — An intravert — Then after a full interesting day at the scientific sessions at the Palmer House, Chicago's public parks, and boulevards are irresistible. A great sage and philosopher once remarked that after a nerve racking day he found both peace and inspiration sitting alone at twilight on a bench in Grant Park on Chicago's water front, glancing reflectively and alternatingly on the vast expanse of water and the halcyon of skyscrapers behind him. Try it yourself. I have. You'll be surprised!

However, maybe you are an extravert and like people. Boys, you'll find them in Chicago — in the hotels, theaters, cafes, and highways and byways.

You are a serious type and have long yearned for museums and galleries? You know without detailed information what a feast Chicago has in store for you.

Or does your love for sports still linger? You want to combine a quest for knowledge with a close-up of the Cubs, the Sox, hockey? All yours for the asking.

There are two new and important reasons why you will want to come to Chicago to attend this 103rd Annual Meeting. First, you will find a new and different Chicago than you have ever experienced in any previous visit. Chicago is girded for war. Oh, it is not only the countless thousands of soldiers and sailors, flyers and marines you brush shoulders with constantly, — no, it's bigger and more subtle than that. It is intangible, yet it's there and you are conscious of it every moment! Chicago is gay, its lights undimmed — and yet the air is surcharged with a new and different tempo. Chicago is doing an enormous job, is backing up its boys — but is carrying on with strength and courage in their absence. You will like this new Chicago. It will do something for you and it will brush away a few cobwebs and send you on your way, distinctly uplifted, like, shall we say, an I. V. of thiamine.

Your three days at the Palmer House too will be different, oh, very much different. The entire program has a military tang, a combination of the civil and the military. You will encounter new topics, new problems, and yet the same friendly atmosphere amongst your friends from all over the state.

Your last and most important reason for coming to this meeting is a bit paradoxical. It will be harder, more difficult than ever before, and yet more pleasant. You are working harder and longer than ever before, and consequently are in no mood to leave it all even for three days. And besides the trip is a bit more difficult whether by auto or train.

However, you will probably reach your decision to come, because your government authorized this meeting and expects us, one and all to carry on even in time of war. And finally, may I leave this thought with you and leave it humbly yet sincerely.

We members of the medical profession have tuned our lives to service and to sacrifice, and as we sign our registration card at the Registration Desk at the Palmer House, we will sense that we have "checked in" twice, once for ourselves and once for the absent Buddy who would be there except for three thousand miles of ocean.

Robert S. Berghoff,
Chairman of Arrangements

General Sessions

OPENING MEETING

TUESDAY AFTERNOON, MAY 18, 1943
Grand Ball Room, Palmer House

1:00 Meeting Officially Opened by the President, Edward H. Weld, Rockford
Invocation — Archbishop Samuel A. Stritch
Address of Welcome, Hon. Edward J. Kelly, Mayor of Chicago.
Address of Welcome, Lt. Commander H. P. Saunders, President, Chicago Medical Society.
Report of the Chairman, Committee on Arrangements, Robert S. Berghoff, Chicago.
Adjournment for scientific meetings.

TUESDAY EVENING, MAY 18, 1943
Red Lacquer Room, Palmer House

9:00 Oration in Medicine —
"The Contribution of the Medical Profession Towards Winning the War"
James E. Paullin, President-Elect of the American Medical Association, Atlanta, Georgia.

WEDNESDAY MORNING, MAY 19, 1943
Grand Ball Room, Palmer House

11:00 Oration in Surgery "Injuries Done the Peripheral Circulation by Heat, Trauma, Infections and other Agencies. The Definition of Shock."
Willis D. Gatch, Dean and Professor of Surgery, University of Indiana School of Medicine, Indianapolis, Indiana.

WEDNESDAY AFTERNOON, MAY 19, 1943
Grand Ball Room, Palmer House

1:30 President's Address
"The Future of Medicine"
Edward H. Weld, President, Illinois State Medical Society, Rockford.

THURSDAY MORNING, MAY 20, 1943
Red Lacquer Room, Palmer House

Induction of the President-Elect

Immediately following the completion of the second session of the House of Delegates, the President-Elect, George W. Post, Chicago, will be inducted into the office of President of the Illinois State Medical Society by the retiring President, Edward H. Weld, Rockford.

All members and guests at the meeting are invited to attend this interesting function.

Joint Sessions

WEDNESDAY MORNING, MAY 19, 1943
Grand Ballroom, Palmer House

Joint session of Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.

9:00 "Activities of the United States Public Health Service in War Time."
Frank V. Meriwether, District Director, Dist. No. 3, U. S. Public Health Service, Chicago.

9:20 "Convulsions."
M. G. Peterman, Milwaukee, Wisconsin.

9:40 "Medical Education in the Present War."
J. Roscoe Miller, Dean, Northwestern University Medical School.
Discussion opened by Eben J. Carey, Dean, Marquette University Medical School, Milwaukee, Wisconsin.

10:20 "Facts and Fancies in Vitamin Therapy."
Anton J. Carlson, Chicago.

THURSDAY MORNING, MAY 20, 1943

Joint session of Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.

9:00 "Chest Wounds."
Major. Lindon Seed, M.C., Camp Grant, Rockford.

9:30 "Epidemic Respiratory Tract Infections at Fort Custer."
Lt. Col. Frank B. Lusk, M. C., Camp Custer, Michigan.
Captain Kenneth Lewis, M. C., and Lt. Richard P. Morris, M. C., Camp Custer, Michigan.

10:00 "Film Demonstration of Virus Pneumonias & Their Complications."
Lt. Commander Chester H. Warfield, Great Lakes, and Lt. Commander J. M. Neeley, Great Lakes.

10:30 "War Time Consideration of Syphilis."
Paul A. O'Leary, Mayo Clinic, Rochester, Minnesota.

11:00 "Epidemic Keratoconjunctivitis."
Major Murray Sanders, M. C., Carlyle, Pennsylvania.

11:30 "The Diagnosis and Treatment of Ano-Rectal Diseases in a Station Hospital."
Major E. H. Quandt, M. C., Camp Grant, Rockford.

Section Programs

SECTION ON MEDICINE

**M. Herbert Barker ..... Chairman
Chauncey C. Maher ..... Vice-Chairman
George B. Stericker ..... Secretary
**In service.

TUESDAY AFTERNOON, MAY 18, 1943
Grand Ball Room, Palmer House

2:00 "Evaluation of Cardiac Patients as Surgical Risks."
Lawrence E. Hines, Chicago.
Discussion opened by Bertram J. Fitzgerald, Chicago.

2:30 "Modification of Protamine Zinc Insulin in the Treatment of Diabetes Mellitus"
Arthur R. Colwell, Evanston.

3:00 "Acute and Chronic Hepatitis (Cirrhosis)."
Walter L. Palmer, Chicago.
Discussion opened by Clarence F. Brown, Chicago.

3:30 Round Table — "Hematology."
Howard Alt; Steven Otto Schwartz and Louis Limarzi, Chicago.

WEDNESDAY MORNING, MAY 19, 1943
Grand Ball Room, Palmer House

Joint Session with Sections on Surgery; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.

(For Complete Program See Joint Sessions.)

WEDNESDAY AFTERNOON, MAY 19, 1943
Grand Ball Room, Palmer House

2:00 Chairman's Address — "Co-Existence of Disease Entities in One Individual."
Chauncey C. Maher, Chicago.

2:30 "Convulsive Shock Therapy: Indications, Contraindications and Results."
Vernon L. Evans, Aurora.
Discussion opened by Francis J. Gerty, Chicago.

3:00 "Pyelitis and Pyelonephritis."
Charles Morgan McKenna, Chicago.

3:30 "Cardiovascular Round Table."
Francis Murphy, Milwaukee, Wisconsin; Hermon H. Cole, Springfield; Edgar M. Stevenson, Bloomington.

THURSDAY MORNING, MAY 20, 1943
Grand Ball Room, Palmer House

Joint Session with Sections on Surgery; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.

(For Complete Program, See Joint Sessions.)

SECTION ON SURGERY

**J. C. Thomas Rogers ..... Chairman
Joseph S. Lundholm ..... Vice-Chairman
J. R. Buchbinder ..... Secretary
**In service

TUESDAY AFTERNOON, MAY 18, 1943
Red Lacquer Room, Palmer House

Joint Session with Central States Society of Industrial Medicine and Surgery; Chicago Society of Industrial Medicine and Surgery.

1:45 "Treatment of Burn Lesions with Biodyne."
Thomas F. P. Walsh, Chicago.

The treatment of burn lesions with Biodynes is a significant gesture in the field of traumatic surgery.

Biodynes are natural chemicals, the end-products of treating yeast cells and fish liver cells and oils, with ultra-violet light, Roentgen rays, mechanical injury, chemical injury, etc. These factors are identified as Respiratory Stimulating and Growth Promoting Factors which control and assist cellular metabolism, respiration and proliferation, therefore they may be considered the Primary Formative Stimuli of cell life in tissue repair.

One hundred cases of severe burn lesions, not including first degree or second degree lesions of minor importance, will be summarized. Kodachrome slides are available for demonstrations.

2:15 "Selection of the Proper Surgical Incision."
Alfred B. Owen, Rockford.

The importance of proper operative incisions has always been stressed by authors of operative surgery and teachers of operative technique. The paper discusses the importance of a proper incision in the more common types of operative procedures and the underlying surgical principle involved.

To facilitate the operative procedure which is to follow, lessen the postoperative complications and restore the patient to health with the minimum loss of time is the ultimate goal of good surgery.

2:45 "Tumor Diagnostic Services in Illinois."
Harry Otten, Springfield.

This paper will present the policies, primary objects, organization and scope of activities of the State-aided Tumor Diagnostic Services in operation at Springfield, Peoria, Rockford and Champaign under the auspices of the Division of Cancer Control of the State Department of Public Health.

The establishment of increased diagnostic and therapeutic facilities in general hospitals is considered to be at present the most effective means of reducing morbidity and mortality from cancer in Illinois.

Discussion opened by John A. Wolfer, Chicago. Continued by Charles L. Leonard, Rockford.

3:15 "A Modified Technique for the Combined Ligation and Retrograde Injection Treatment of Varicose Veins."
Joseph T. Gault, Chicago.

The method of simple ligation with subsequent injections was associated with many recurrences because of the failure to obliterate the thigh portion of the internal saphenous vein. High ligation and the retrograde injection of a sclerosing solution, now accepted as the treatment of choice, overcomes objections to the older treatment by insuring the obliteration of the thigh portion of this vein. However the ensuing chemical thrombophlebitis and periphlebitis, involving, as it does, the whole internal saphenous tree, often causes disability and considerable discomfort for a week or longer. A method is described for limiting the thrombosis of this vein to its thigh portion by creating a thrombotic barrier at the level of the knee and thus obviating the undesirable sequelae of the combined high ligation and retrograde injection treatment. The conclusion are based on an experience with about 175 cases.

Discussion opened by Geza de Takats, Chicago.

3:45 "Differential Diagnosis of Low Back Pain."
W. Stuart Wood, Decatur.

The problem of diagnosing the cause of a pain in the lower back is one which confronts every general practitioner and most specialists with increasing frequency.

The number of conditions in which pain in the back may be the chief or only symptom is amazingly large, even though we exclude conditions in which pain in the back is present, but not as a major symptom.

In making a differential diagnosis the first step is an accurate history which must supply definite information on the following points: 1. Age of the patient; 2. Sex of the patient; 3. Manner of onset of pain (with or without trauma); 4. Location of the pain; 5. Character of the pain; 6. Radiation of the pain; 7. Causes of aggravation of the pain; 8. Methods of relieving the pain.

With such a history the field of possible causes can be definitely narrowed.

Following the history should come a thorough physical examination made with the patient unclothed. This examination should determine:

1. Contour of the spine on standing; 2. Areas of tenderness to palpation; 3. Presence or absence of muscle spasm; 4. Any limitation of movements of the spine; 5. Effect of straight-leg raising and Faber tests; 6. Reflex responses in both lower extremities; 7. Any sensory changes in the lower extremities; 8. The length of both legs from the anterior-superior iliac spine to the internal maleolus; 9. Any abnormality of the gait.

Only after the history is taken and the physical examination is done are we ready to have x-rays of the spine. We can then determine the area we wish radiographed and the angles at which we wish the pictures taken.

The final diagnosis is made from the correlation of the information obtained in all three procdures. In order to facilitate diagnosis and to save time without sacrificing accuracy I have devised a card index system which I will demonstrate with the use of slides.

4:15 "One-sided Spinal Anesthesia in Extremity Surgery."
David L. Murphy, Dixon.

WEDNESDAY MORNING, MAY 19, 1943
Grand Ball Room, Palmer House

Joint Session with Sections on Medicine; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.

(Form Complete Program, See Joint Session.)

WEDNESDAY AFTERNOON, MAY 19, 1943
Red Lacquer Room, Palmer House

2:00 "The Care of Cleft Lips and Palates."
L. W. Schultz, Chicago.

A comprehensive treatise on these lesions portraying their etiology, varieties and complications. The time for correction of different states of cleft lips and palates as well as surgical technique for these corrections, are discussed. To improve the technique it is essential to have an abundance of material. The weight, age and diet are all very important factors to be considered preoperatively. The technique described for unilateral and bilateral cleft lips and palates gives uniform satisfactory results.

2:30 "Posterior Mediastinal Goiter."
J. M. Mora, Chicago.

Posterior mediastinal goiter is the rarest of the completely intrathoracic goiters. The mechanism of descent into the thorax is discussed, together with the symptoms, pathology, diagnosis and treatment. Attention is directed to the technical details involved in removing a large thyroid mass from the chest through the superior thoracic aperture. A case is presented of posterior mediastinal goiter with thyrotoxicosis and a few pressure symptoms successfully removed through the usual collar incision without dividing the prethyroid muscles and without removal of any part of the thoracic cage.

Discussion opened by Marshall Davison, Chicago.

3:00 "Pulmonary Embolism."
Minas Joannides and Arthur Hesse, Chicago.

In an investigation of the factors involved in the cause of sudden death associated with pulmonary embolism the following facts have been observed.

1. Occlusion of the pulmonary artery, and artery and vein on one side result in an infarct with a subsequent healing or abscess formation in the lung.
2. Occlusion of pulmonary arteries of both lungs result in sudden death. In such cases an acute dilatation of the right ventricle and auricle is definitely observed.
3. Injection of coagulants produce sudden death due to coronary occlusion.
4. Injection of coagulants in sublethal doses or after a preliminary administration of coramine results in a tolerance to the coagulant so that no death occurs even though there is evidence of thrombosis and embolism not only in the coronaries but also throughout the whole body.

Discussion opened by Ralph Bettman, Chicago.

3:30 "Which Peptic Ulcers Should be Operated Upon?"
Karl A. Meyer and F. Steigmann, Chicago.

Gastro-duodenal ulcer is at present unanimously considered a disease to be treated medically. There are times, however, when the surgeon's intervention is demanded in the regiment of the patients with gastric or duodenal ulcer. In the majority of instances it is only one of the various complications of peptic ulcers which requires surgical intervention.

It is at present non-debatable that perforated peptic ulcers are surgical emergencies. Not so clear, to some as yet, do the indications for surgery in bleeding peptic ulcers appear, although these indications are becoming more clearly established as the beneficial results of surgery in cases of bleeding ulcer become better known. There are definite indications for surgery in some types of pyloric obstruction.

Radical removal of the chronic, large gastric ulcer by sub-total gastrectomy is also becoming a more prevalent procedure.

Careful preoperative preparation of the patient with attention to his general nutritional status (plasma proteins, vitamins and mineral balance) is essential. Appropriate anesthesia (preferably spinal), care during operation (fluids, blood transfusion), and good post-operative care (attention to fluid balance, blood, pulmonary status) have made radical gastric surgery a procedure with a low mortality in the hands of the surgeon.

Discussion opened by Alfred A. Strauss, Chicago.

4:00 "The Recognition and Management of Surgical Lesions of the Sigmoid and Pelvic Colon."
John A. Wolfer, Chicago.

Lesions of the pelvic colon and sigmoid may produce symptoms that suggest diseases of the upper gastrointestinal tract and even the biliary system. This fact must be taken into consideration in every case that presents gastrointestinal symptoms.

The lesions of the sigmoid and pelvic colon that concern the surgeon primarily are carcinoma and diverticula. During the diagnostic procedures however other conditions, primarily medical in nature, must be considered and eliminated. These include ulcerative colitis, Amoebiasis, the spastic or irritable colon, tuberculosis, and the non-specific types of chronic colitis.

Beyond an accurate history, carefully planned examinations will in time provide the necessary data for a correct diagnosis, and to a great degree dictate the type of therapy. It is to be stressed that the colon should be studied by the use of a barium enema first in all cases to determine whether the lesion is in the pelvic colon or sigmoid and whether it is obstructive before any opaque material is put into the upper gastrointestinal tract.

It is at times almost impossible to differentiate between carcinoma and diverticulitis of the colon.

The trend is toward a scrupulous preoperative preparation of the patient and one stage surgical procedures, with end to end anastamoses when possible without drainage or even surgical decompression. The use of the sulfonamides is encouraged.

4:30 "Transurethral Drainage of the Seminal Vesicles in Seminal Vesiculitis." (Lantern Slide Demonstration.)
Robert H. Herbst and James W. Merricks, Chicago.

Brief historical sketch is included, with a few notes on indications for and the technique of transurethral dilation of the ejaculatory ducts in certain diseases of the seminal vesicles. Relationship to chronic prostatitis is stressed. Some interesting late results of this form of treatment are included.

Discussion opened by C. G. Weller, Aurora.

THURSDAY MORNING, MAY 20, 1943
Grand Ball Room, Palmer House

Joint Session with Sections on Medicine; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.

(For Complete Program See Joint Sessions.)

SECTION ON EYE, EAR, NOSE AND THROAT

G. Henry Mundt ..... Chairman
George H. Woodruff ..... Secretary

TUESDAY MORNING, MAY 18, 1943
Crystal Room, Palmer House

9:00 "Diverticula of the Pharyngo-Esophagus, One State Operation."
Max M. Kulvin, Chicago.

The paper will cover the anatomical aspects, types of diverticula, symptomatology, x-ray photographs of the diverticula prior to operation and the esophagus after operation, surgical procedure and post-operative treatment.

Discussion opened from the floor.

9:30 "Periphlebitis, Phlebitis and Endophlebitis of the Retina."
Ignatius Sommer, Chicago.

We find frequently inflammatory changes of the retinal veins in sections of enucleated eyes.

We find acute inflammations of the veins as acute peri-

phlebitis and acute thromboendophlebitis, usually in exogenous and rarely in metastatic endophthalmitis.

Chronic inflammatory changes of the veins are seen as periphlebitis which appears as infiltration in the perivascular spaces and adventitia and mostly secondary to chronic uveitis, as unspecific and rarely as specific form. The pure periphlebitis is relatively harmless and seldom gives rise to retinitis proliferans, never to hemorrhages. Rarely primary periphlebitis is found due to a focus in the body outside the eye.

Mesophlebitis is chronic inflammation and degeneration of the media and is responsible for hemorrhages in the retina, for so-called pre-retinal hemorrhages and vitreous hemorrhages. Chronic inflammatory unspecific and less frequently specific local alteration, metabolic disturbances like diabetes, chronic nephritis may produce mesophlebitis.

Endophlebitis is chronic inflammation and proliferation of the intima and is often caused by stasis of the blood circulation and anoxemia, further by toxic substances circulating in the blood.

Frequently these three types of chronic alterations of the retinal veins are combined in the same vessel.

Retinitis proliferans can be caused by any of these chronic alterations of the vessel wall and may start without hemorrhages in the vitreous.

Discussion opened by Beulah Cushman, Chicago.

10:00 "Osteomyelitis of the Facial Bones."
Glenn Greenwood, Chicago.

Osteomyelitis of the bones of the face, despite present day therapeutic measures, still occupies too prominent a place in the incidence of skeletal involvement. The essential pathology of this entity shows the same changes here as in any other fibroblastic tissues containing a deposit of lime salts in the ground substance. There are certain anatomical characteristics present in the facial bones which influence the clinical picture and, in some instances, challenge the diagnostic accumen and therapeutic judgment of those attending such cases. Case reports will be cited to illustrate.

Discussion opened by Thomas Galloway, Evanston.

10:30 "Head and Neck Neoplasms."
L. B. Bernheimer, Chicago.

Ten cases of head and neck neoplasms will be presented, each case illustrated with lantern slides. The discussion will indicate diagnostic and therapeutic measures, and the end results in the treatment of such cases will be discussed. The neoplasms to be presented are representative of benign and malignant tumors of the mouth, pharynx, larynx, nasal sinuses, and ear.

Discussion opened by Frank Novak, Chicago.

11:00 "Industrial Ophthalmology and Otolaryngology."
Gordon F. Harkness, Davenport, Iowa.

Industrial medicine part of a conservation of public health program. Industry has waited for practical cooperation. Basis of evaluating visual and hearing losses. Unique position and responsibility of the industrial surgeon. Malingering in industry. The psychological approach. Hazards in industry, compensable and non-compensable. Care of trivial accidents important. Technique of same. The surgeon as an ally of the safety and lighting engineer. The history and time of recording losses from industrial injuries. The question of the eye pad. Injuries associated with co-existent disease. Industrial medicine is the practical application of scientific knowledge to the needs of industry.

Discussion opened from the floor.

TUESDAY AFTERNOON, MAY 18, 1943
Crystal Room, Palmer House

INSTRUCTION COURSES

2:00 "Meniere's Syndrome."
John R. Lindsay, Chicago.

2:00 "Selection of Types of Operation for Cataract Surgery."
Samuel J. Meyer, Chicago.

3:30 "Treatment of the Sinuses by Irrigation."
O. E. Van Alyea, Chicago.

3:30 "The Treatment of Some Conjunctival Diseases."
A. C. Krause, Chicago.

TUESDAY EVENING, MAY 18, 1943
Crystal Room, Palmer House

6:00 Banquet.

7:30 "Masterpieces of Man and Nature in Color Photography."
C. O. Schneider, Chicago.

The 1942 Art Institute Exhibit of Rembrandts and other Dutch Masters reproduced by color photography.

The second portion will consist of views of some famous gardens and many gorgeous views of Zion, Grand Canyon and Bryce Canyon National Parks.

WEDNESDAY MORNING, MAY 19, 1943
Crystal Room, Palmer House

9:00 "Fuso-Spirochetal Tracheobronchitis."
Paul H. Holinger and Ralph G. Rigby, Chicago.

Chronic bronchitis and chronic pneumonitis are frequently associated with the discovery of large numbers of fusiform organisms and spirilla in the tracheobronchial secretions. The significance of these findings, the effects of specific therapy, and a resume of cases will be discussed.

Discussion will be opened by Robert K. Campbell, Springfield.

9:30 "Results of Surgical Treatment of Acute Congestive Glaucoma."
Peter C. Kronfeld and M. Isabelle McGarry, Chicago.

There is still gross disagreement with regard to the type of operation best suited for the acute emergency of acute congestive glaucoma. A basal iridectomy through a scratch incision appears to be the safest and smallest of all operations recommended. Traditionally the choice of operation, iridectomy can be expected to relieve permanently only those cases with not too extensive peripheral anterior synechiae and with normally functioning trabeculumcanal of Schlemm mechanism prior to the development of the synechiae. Actually iridectomy does not make a good showing in statistical reports. Iris inclusion operations while considered contra-indicated in acute congestive glaucoma by Spaeth, Goar and Schultz, have been successful in roughly two out of three cases at the Illinois Eye and Ear Infirmary. A similar, high percentage of successes has been obtained by corneo-scleral trephining although the narrowness of the angle present in this type of glaucoma seems to make permanent patency of the trephine hole unlikely. Another a priori-consideration which appears to speak against the use of the trephine in these cases, is that slow release of the aqueous seems irreconcilable with smooth complete removal of the trephine button. The present study was undertaken to determine some of the causes of the discrepancies between expected and actual, operative results. The cases of acute congestive glaucoma treated at the Illinois Eye and Ear Infirmary during the last five years were reviewed with the chief object of determining, by clinical and gonioscopic examination, the causes of success or failure of the particular type of operation.

Discussion opened by Watson W. Gailey, Bloomington.

10:00 "Nasal Sinusitis: Prognosis and Treatment Based on a More Rational Histopathologic Interpretation."
A. R. Hollender and M. F. Snitman, Chicago.

There is a lack of justification for the numerous radical sinus operations performed in the past, and still being done in some quarters. While the main principles of sinus therapy remains the same — ventilation and drainage — conservative procedures generally are adequate for improved results.

This presentation pleads for a revision of existing indications for radical operative interventon and supports this plea with conclusive histopathologic studies and clinical results.

Discussion opened by O. E. Van Alyea and Frank J. Novak, Chicago.

10:30 "A Potpourri of Clinical Cases in Kodachrome."
Roy O. Riser, Park Ridge.

The clinical pictures of various ophthalmic cases will be demonstrated with the aid of color photography.

Discussion to be opened from the floor.

11:00 Business Meeting.

11:30 "Evaluation of Shrinking Methods in Chronic Nasal Obstruction."
M. Tamari and W. Busby, Chicago.

The purpose of the paper is the evaluation of shrinking methods used in chronic nasal blockage at the Illinois Eye and Ear Infirmary.

The authors prefer submucous instillations of sodium psylliate in cases of obstruction from engorged turbinates and suggest a new technique of application.

In chronic persistent hypertrophic rhinitis an intamural diathermy should be administered.

Photomicrographs illustrate the reaction of the mucosa and the submucosa in both methods.

Discussion to be opened from the floor.

WEDNESDAY AFTERNOON, MAY 19, 1943
Crystal Room, Palmer House

INSTRUCTION COURSES

2:00 "The Treatment of Some Corneal Diseases."
Sanford R. Gifford, Chicago.

2:00 "Allergy in Diseases of the Ear, Nose, and Throat."
George E. Shambaugh, Jr., Chicago.

SECTION ON PUBLIC HEALTH AND HYGIENE

Henry C. Niblack ..... Chairman
Roland R. Cross ..... Secretary

TUESDAY AFTERNOON, MAY 18, 1943
Private Dining Room 18

1:30-5:00
WAR AND POST-WAR PUBLIC HEALTH SERVICE

"Point of View of the United States Public Health Service."
F. V. Meriwether, United States Public Health Service, Chicago.

A brief history of the service and its activities and a descriptive explanation of its war activities ashore and afloat and within and without the United States. The "semi-war" activities such as V. D. and malaria control are described as well as the civilian duties of the service which include administration of Title VI funds, recruiting and training personnel for duty with state health departments and other agencies.

"Point of View of the State with Emphasis on Rural State Departments of Public Health."
Richard F. Boyd, Springfield.

Subsequent to the outbreak of the war, the Illinois Department of Public Health has assisted eleven counties, which are in defense areas, in establishing full time county health departments. These health departments are carrying out public health programs designed to meet problems arising out of the war effort. After the war, concerted effort should be made to provide local health service to all areas of the state. Legislation permitting counties to establish full time, adequately staffed health departments is a necessity.

"Point of View of the City."
E. K. Musson, Chicago.

The objectives of public health are basically the same in times of war and peace. More or less routine programs for the prevention of disease have even more serious implications during war. Problems of war necessitate a change in technic involved in such peace-time programs as diphtheria inoculations, smallpox vaccinations, etc.

In addition, war brings many new problems, as shifting populations, industrial hazards, shortage of personnel, new diseases and many others. The health department must anticipate these problems and apply to its activities the question "Does it help win the war?"

"Point of View of the Public."
Mr. Frederic Woodward, Chicago.

A survey of the administration of public health in Illinois, made for the American Public Health Association, revealed that its chief inadequacy resulted from the lack of full time health departments in rural areas. This inadequacy is sharply emphasized by the present shortage of physicians and the danger of war-time epidemics.

Governor Green instituted the organization of a Statewide Public Health Committee to develop public interest in health needs. The committee has made encouraging progress. One of its first tasks was to bring about the enactment of legislation which would enable counties to organize and maintain by taxation full time public health departments. A bill for this purpose has been introduced and the committee is advocating its enactment.

WEDNESDAY MORNING, MAY 19, 1943
Grand Ballroom

Joint Session with Sections on Medicine; Surgery; Radiology; Pediatrics; and Obstetrics and Gynecology.

For Complete Program, See Joint Sessions.

WEDNESDAY AFTERNOON, MAY 19, 1943
Private Dining Room 14

Joint Session with Sections on Pediatrics; and Obstetrics and Gynecology.

2:30- 5:00
"Complete Physical Examination of Our Little Girls."
Edward Allen, Chicago.

Parents of America have turned enthusiastically to the medical profession for the protection of their children's health. Few mothers of today attempt to rear their youngsters without some form of pediatric advice, including routine physical examination, preventive inoculations and supervision of nutrition.

Omission from this program of careful routine examination of the organs of reproduction and adequate instruction in the physiology and psychology associated with them will account for the majority of serious situations arising later in these organs. Death and disease from these causes could be cut fifty per cent or more by training doctors to make these complete examinations and by teaching people to demand them at regular intervals. Puritanism will not protect one from cancer.

Discussion opened by Arthur H. Parmelee, Oak Park.

"Psychiatric Problems of Adolescence."
David Slight, Chicago.

These problems come to notice as social disorders, scholastic, familial or delinquency more frequently than as the recognized neurotic and psychotic syndromes. However, histories of adults with the latter conditions frequently indicate that the symptoms of these conditions were already present in adolescence and then overlooked or unrevealed. These problems and the overt psychiatric disorders of adolescence will be discussed as to causation, treatment and prevention.

Discussion opened by Bert I. Beverly, Oak Park.

"The War-time Maternal and Child Welfare Program."
Fred L. Adair, Springfield.

In the fall of 1942 the Children's Bureau announced to the states a plan to allocate some available funds for the care of wives and infants of enlisted men. The sum of $10,000 was allotted to Illinois. Later $10,000 was rebudgeted from matched funds and still later $24,000 was rebudgeted. In March Congress appropriated $1,200,000 for the balance of the fiscal year ending June 30. Large appropriations will doubtless be made for next year. A report will be given regarding the details of this plan and its operation in Illinois.

Discussion opened by Luella E. Nadelhoffer, Chicago.

"Convulsions in Infancy and Childhood."
M. G. Peterman, Milwaukee, Wisconsin.

The study of convulsions has reached a new stage in development. The greatest contribution, since the classifica-

tion presented in 1934, was made by Hans Berger of Jena in 1929 when he introduced the clinical use of the electroencephalograph. With this instrument it has been possible to prove what was formerly only a clinical impression, that epilepsy is a hereditary disease. It is also possible now to diagnose a convulsive state and to even anticipate a convulsion with the electroencephalograph alone. The entire concept and classification of convulsions will need to be revised in the light of our present studies with the electroencephalograph. The incidence of convulsions can easily be explained in view of the findings that at least 15 per cent of the electroencephalograms on supposedly normal controls are definitely abnormal.

Discussion opened by Meyer Pearlstein, Chicago.

THURSDAY MORNING, MAY 20, 1943
Grand Ballroom

Joint Session with Sections on Medicine; Surgery; Radiology; Pediatrics; and Obstetrics and Gynecology.

SECTION ON RADIOLOGY

**Cesare Gianturco ..... Chairman
F. Flinn ..... Vice Chairman
Fay H. Squire ..... Secretary
**In Service.

TUESDAY AFTERNOON, MAY 18, 1943
Private Dining Room 9

1:30 "Abdominal Tumors of Questionable Origin; Roentgenological Aspects."
Adolph Hartung, Chicago.

"Eosinopilic Granuloma of Bone."
P. R. Dirkse, Peoria.

Report of the case of a rather unusual type of granuloma of the sterum which developed after an injury. Its clinical course and particularly its response to roentgen therapy resembled that of a tumor, particularly one of the Hodgkins or lymphoma group, but biopsies revealed a granuloma. The development of regional metastatic lesions distinguishes this case from other cases of this type of granuloma previously reported.

"Sarcoid."
J. Paul Bennett, Chicago.

A brief discussion of sarcoid with special reference to roentgenologic findings. The presentation of several cases and consideration of the differential diagnosis.

"X-Ray Manifestations of Atypical Pneumonia at Fort Custer."
Captain E. K. Lewis, M. C., Fort Custer, Michigan.

Of 500 cases studied during an epidemic of respiratory tract infection embracing some 2800 cases, 25% developed pulmonary findings characteristic or suggestive of atypical pneumonia. In many, the x-ray findings were distinctive enough, even in the earliest phase of the involvement, to make a positive diagnosis roentgenologically of atypical or virus pneumonia. In many, such a diagnosis was impossible because of the similarity of the lesion with measles broncho-pneumonia, acute bronchitis, tuberculosis, lung abscess, acute bronchiectasis, atelectasis, metastatic infiltration, and other conditions. In many of these cases, the mutual cooperation of the roentgenologist and clinician served to clarify the diagnosis. Slides presented carry the subject through from the time of the earliest phase to its latest manifestations, with the interposition of contrast slides depicting such conditions as tuberculosis, measles and with which atypical pneumonia is likely to be confused.

"The Value of Surgery and X-Ray Therapy in the Treatment of Cancer of the Breast."
Roswell T. Pettit, Ottawa.

In untreated cases of cancer of the breast 12% survived more than five years. (Lazarus-Barblew). In surgically treated cases, 36% survived five years (Adair). Cases treated by radiation alone, 35% survived five years, (Lee). In massive preoperative x-ray therapy the results have been disappointing, "Probably the good done by preoperative irradiation is more than overcome by the loss of time." Results in rural sections of Illinois compare favorably with results reported from large clinics and metropolitan centers. The paper includes a discussion of technical factors, surgical and radiological, as well as statistical report of results.

Film Reading Session.
Chester Challenger, Chicago.
David Beilin, Chicago.
John E. Madden, Decatur.
Fred H. Decker, Peoria.

WEDNESDAY MORNING, MAY 19, 1943
Grand Ballroom

Joint Session with Sections on Medicine; Surgery; Public Health and Hygiene; Pediatrics; and Obstetrics and Gynecology.

(For Complete Program, See Joint Sessions.)

THURSDAY MORNING, MAY 20, 1943
Grand Ballroom

Joint Session with Sections on Medicine; Surgery; Public Health and Hygiene; Pediatrics; and Obstetrics and Gynecology.

(For Complete Program, See Joint Sessions.)

SECTION ON PEDIATRICS

A. J. Fletcher ..... Chairman
Robert Cummings ..... Secretary

TUESDAY AFTERNOON, MAY 18, 1943
Private Dining Room No. 17, Palmer House

1:30 SYMPOSIUM ON NUTRITION.
"The Pattern of Growth in Infancy and Childhood."
John Carey, Joliet.
Discussant — Edmund G. Lawler, Chicago.

"Nutritional Anemias."
Henry Poncher, Chicago.
Discussant — Thomas F. Krauss, Rockford.

"Vitamin Requirements in Infants and Children."
John R. Vonachen, Peoria.
Discussant — F. H. Maurer, Peoria.

"Scientific Diets and Feeding Habits of Infants."
C. A. Aldrich, Chicago.
Discussant — Gerald M. Cline, Bloomington.

WEDNESDAY MORNING, MAY 19, 1943
Grand Ball Room, Palmer House

Joint session with Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; and Obstetrics and Gynecology.
(For Complete Program, See Joint Sessions.)

WEDNESDAY AFTERNOON, MAY 19, 1943
Private Dining Room No. 14, Palmer House

Joint session with Sections on Public Health and Hygiene; and Obstetrics and Gynecology.
(For Complete Program, See Section on Public Health and Hygiene.)

THURSDAY MORNING, MAY 20, 1943
Grand Ball Room, Palmer House

Joint session with Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; and Obstetrics and Gynecology.
(For Complete Program, See Joint Sessions.)

SECTION ON OBSTETRICS AND GYNECOLOGY

Clyde J. Geiger ..... Chairman
C. J. Heiberger ..... Secretary

TUESDAY AFTERNOON, MAY 18, 1943
Private Dining Room No. 14

1:30 "The Importance of the Outlet Contraction of the Pelvis in Obstetrics."
Ralph E. Campbell, Madison, Wisconsin.
Discussion opened by E. L. Cornel, Chicago.

"Inversion of the Uterus in Gynecology and Obstetrics."
Channing W. Barrett, Chicago.
Discussion opened by James H. Bloomfield, Chicago.

"The Treatment of Benign Uterine Bleeding in the Menopause."
J. Robert Willson, Chicago.
Discussion opened by Wm. T. Carlisle, Chicago.

"Surgical Complications of Pregnancy."
W. G. Cummings, Evanston.
Discussion opened by Wm. A. Malcolm, Peoria.

Time schedules for the above list of papers will appear in the official program.

WEDNESDAY MORNING, MAY 19, 1943
Grand Ball Room, Palmer House

Joint session with Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; and Pediatrics.
(For Complete Program, See Joint Sessions.)

WEDNESDAY AFTERNOON, MAY 19, 1943
Private Dining Room No. 14, Palmer House

Joint session with Sections on Public Health and Hygiene; and Pediatrics.
(For Complete Program, See Section on Public Health and Hygiene.)

THURSDAY MORNING, MAY 20, 1943
Grand Ball Room, Palmer House

Joint session with Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; and Pediatrics.
(For Complete Program, See Joint Sessions.)

RULES GOVERNING PRESENTATION OF PAPERS

"All papers read by members shall be limited to twenty minutes, and remarks in discussion to five minutes, floor privilege being allowed only once for the discussion of any one subject.

"All papers read before the Society or any of its Sections shall become the property of the Society. Each paper shall be deposited with the Secretary of the Section when read and the presentation of a paper to the Illinois State Medical Society shall be considered tantamount to the assurance of the part of the writer that such paper has not already appeared and will not appear in medical print before it has been published in the Illinois Medical Journal.

"A paper not heard in its scheduled turn shall be held subject to call of the Chairman of the Section at the end of the regular session if time permits, or as an alternative at the end of the program.

"All discussions shall be confined strictly to the subject in hand.

"No paper shall appear in the printed transactions of the meeting unless read in full or in abstract."
(From the By-Laws of the Illinois State Medical Society.)

Programs of Special Organizations

SECRETARIES' CONFERENCE

R. T. Pettit ..... Chairman
P. J. McDermott ..... Vice-Chairman
Fred H. Muller ..... Secretary

TUESDAY EVENING, MAY 18, 1943
Private Dining Room No. 14, Palmer House

The Secretaries' Conference will be held Tuesday evening at 6:00 o'clock, in Private Dining Room No. 14, Palmer House, Chicago.

The following program has been arranged which should prove of particular interest at this time.

"The Japanese as I Knew Them", The Honorable H. H. Thomas, British Consulate General, Chicago.

"Latest Developments in Procurement and Assignment Service" Charles H. Phifer, Chairman, Sixth Service Command, Procurement and Assignment Service, Chicago.

ILLINOIS SOCIETY OF PATHOLOGISTS

Israel Davidsohn, President ..... Chicago
W. O. Brown, Secretary ..... Chicago

TUESDAY MORNING, MAY 18, 1943
Private Dining Room No. 18, Palmer House

9:00 "Duties of a Pathologist in a Naval Hospital."
J. J. Kearns, Lieutenant Commander, M.C. USNR.

"Duties of a Pathologist in the Public Health Service."
Joseph Lubitz, Assistant Surgeon, U.S.P.H.S.

"Food Poisoning."
Gail Monroe Dack, Chicago.

"Studies on Pathologic Physiology of Burns."
H. Necheles and William Olson, Chicago.

"The Use of Gelatin as a Blood Substitute."
Howard C. Hopps, Chicago.

A business meeting will be held at the close of the scientific session.

SEMINAR

Northwestern University Medical School, 303 E. Chicago Avenue, Room 659, at 2:00 p.m. Cases and microscopic slides will be presented by members. The Seminar is limited to members of the Illinois Society of Pathologists.

MEDICAL WOMEN'S ASSOCIATION

The Annual Breakfast of the women members of the Illinois State Medical Society will be held at the Palmer House in room 18 at 8:30 A. M., May 19th. The Annual Clinical Meeting will be held at the Women's and Children's Hospital that afternoon at 2:00 P. M., followed by tea at 4:30 P. M.

MEDICAL ALUMNI ASSOCIATION, UNIVERSITY OF ILLINOIS

The Medical Alumni Association of the University of Illinois will hold an annual luncheon at the Palmer House on May 19th, Wednesday, at 12 noon. An interesting program is planned. Due to food restrictions, reservations will be required. Please mail $2.00 to cover cost per plate. Guests are invited. Dr. George W. Post will preside.

Dr. M. H. Streicher, Secretary-Treasurer
1853 W. Polk Street, Chicago, Illinois

PHYSICIANS' ASSOCIATION DEPARTMENT OF PUBLIC WELFARE STATE OF ILLINOIS

H. B. Fitzjerrell ..... President
Ethel A. Chapman ..... Secretary-Treasurer

TUESDAY MORNING, MAY 18, 1943
Private Dining Room 14

9:00-12:00

"The Pathology of Chronic Alcoholism with Special Reference to the Nervous System."
W. R. Kirschbaum, Manteno.

The general pathological effects of chronic alcoholism on the body are difficult to evaluate. They rarely present an adequate cause of death. Chronic alcoholism with unspecific irritation of the gastro-intestinal tract and a frequently found liver disease paves the way for metabolic disorders. Complications from other bodily organs, among them the nervous system, may develop. The structural changes in the central nervous system are not very significant. No specific brain pathology of chronic alcoholism exists although a few fairly suggestive findings (Wernicke's disease, hemorrhagic pachymeningitis) occur.

The pathology of chronic alcoholism is shown on 30 subsequent autopsies of different ages. Statistical data of the main and contributary causes of death are given. The gross and microscopical findings on 18 brain autopsies present known and unusual findings. These will be shown in photographs and the very complex problem of the pathologic process will be discussed.

Discussion opened by A. Weil, Chicago.

"Nervous and Mental Manifestations Observed in Spontaneous Hypoglycaemia."
Alan A. Lieberman and Henry G. Lonsdale, Elgin.

The authors present a case of chronic hypoglycaemia due to pancreatic adenoma with neurological and psychotic manifestations over a period of three years, and now submitted as recovered in all aspects twenty months following surgical extirpation of the pancreatic tumor. Emphasis is placed upon the remarkable reversibility of cerebral reactions in such chronic states of hyperinsulinism. Two additional cases of functional and endocrine spontaneous hypoglycaemia with development of nervous and mental symptoms are presented as recovered upon dietary management. Since hypoglycaemic states may simulate any and all varieties of nervous and mental disorders, the authors regard glucose tolerance studies as essential wherever fluctuations in the degree of conscious awareness are apparent.

Discussion opened by S. Soskins and B. Hilkevitch, Chicago.

"Cranial Anomalies."
H. Josephy, Lincoln.

The term feeblemindedness "with cranial anomalies" is used in outlines for the clinical classification of oligophrenia as a designation for a group which is characterized by an abnormal shape or size of the head. This term covers a variety of entirely different conditions, syndromes and pathological findings. Oxycephaly and hypertelorism are genuine cranial anomalies. The skull is malformed primarily and the brain may be affected secondarily. Hydrocephaly, macrocephaly and microcephaly have a cranial anomaly which is caused by the abnormal size and shape of the brain. The cranial anomaly in these cases is secondary and irrelevant, except for the fact, that it suggests the anomaly of the brain. Neither hydrocephaly nor microcephaly are morbid entities. It will be demonstrated that microcephalics show a very diversified pathology. "Cranial anomalies" should disappear from the outlines, and the term should be replaced by more appropriate and exact classifications.

Discussion opened by R. Mackay and B. Lichtenstein, Chicago.

"Prevention of Hemorrhages in the Brain in Experimental Electric Shock."
G. Heilbrunn. Chicago.

The occurrence of hemorrhages in the central nervous system of experimental animals following electrically induced convulsions gained additional practical significance by recent reports of similar hemorrhages in the human brain. A search for appropriate preventive measures to forestall the appearance of such lesions appeared therefore obligatory. Preparatory injections of atropine, Vitamin K, calcium, hemagulen, and various combinations of the latter three prior to electrically induced convulsions failed to prevent hemorrhages in the brains of experimental rats. From the fact, however, that no hemorrhages were seen in animals in which convulsions had completely been prevented by ether narcosis, it was concluded that the pressure changes accompanying the convulsion and not the current itself represent the causative factor in the formation of these lesions.

Discussion opened by E. Liebert, Elgin.

"A Study on the Results of Electric Shock Treatment."
R. Gronner, Elgin.

An attempt is made to evaluate electric shock therapy on a non-statistical basis merely by isolating outstanding features common to the majority of cases without regard to the diagnosis. The significance of changes in the clinical picture during treatment is discussed and an attempt made to establish a working hypothesis on the mechanism of convulsive treatment based on organic and psychological factors alike.

Discussion opened by C. F. Read, Elgin; and G. Piers, Chicago.

"The Influence of the Draft on the Formation of Psychoses in Women."
M. Wallenberg, Manteno.

Among the female admissions to the Manteno State Hospital during the last year, a number of cases were observed, who, according to the information, became acutely psychotic coincidental with the draft of sons, husbands or other near relatives. The case histories of twelve such patients were studied, and by getting more objective and subjective information the following became apparent:

While the pending or actual draft of beloved persons was contributory to the outbreak of the acute psychosis in several cases, it could in none be regarded as the sole causative agent. It was frequently found that the objective information which had stressed the factor of the draft as being responsible for the mental breakdown was contradicted by the findings at the exploration of the patient herself. It was found that in many cases the emphasizing of the emotional upset about the draft was merely a rationalization and presented a displacement from partially unconscious conflicts. Two women who broke down with a severe psychosis after the draft and actual separation from their sons showed signs of organic brain disease. The findings in the twelve cases show that also during an extraordinary emotional stress the total personality is reacting according to the whole physical and mental set-up and according to previous experiences and conscious and unconscious conflicts.

Discussion opened by C. Sommer, Chicago.

"A Rorschach Study of Symptomatic Schizophrenia Following Brain Trauma."
J. A. Endacott, Manteno.

This paper is concerned with a psychosis following a childhood brain trauma. The Rorschach analysis is made with particular reference to a differential diagnosis between true Paranoid Schizophrenia and a psychosis resulting from frontal lobe injury; certain implications of the function of the frontal lobes are discussed.

Discussion opened by M. Goldberg, Chicago; and P. Wittman, Elgin.

JOINT MEETING

CENTRAL STATES SOCIETY OF INDUSTRIAL MEDICINE AND SURGERY, CHICAGO SOCIETY OF INDUSTRIAL MEDICINE AND SURGERY

INDUSTRIAL HEALTH CONFERENCE

TUESDAY, MAY 18, 1943 — 9:00 a.m.
Red Lacquer Room, Palmer House

Presiding: C. O. Sappington, President, Central State Society of Industrial Medicine and Surgery.
Clarence W. Hennan, President, Chicago Society of Industrial Medicine and Surgery.

Program Chairmen: James J. Callahan.
Thomas E. Browning.

Address of Welcome, Clarence W. Hennan, Chicago. (President Chicago Society of Industrial Medicine and Surgery.)

Industrial Health and the Employer, Mr. George P. Wardley, Assistant Vice-President, Industrial Relations Department, Carnegie-Illinois Steel Company, Chicago.

Labor's Attitude on Industrial Health, Mr. James Crosser, Chief Chemist, Industrial Hygiene Division, Illinois State Department of Labor, Chicago.

Industrial Health and the Industrial Physician, Harold Vonachen, General Medical Director, Caterpillar Tractor Company, Peoria.

President's Address (Central States Society).

Industrial Health — Its War and Post-War Significance, C. O. Sappington, Chicago.

General Discussion.

TUESDAY AFTERNOON, MAY 18, 1943
Red Lacquer Room, Palmer House

JOINT SESSION WITH SECTION ON SURGERY

For Complete Program, See Section on Surgery.

MEETINGS OF THE HOUSE OF DELEGATES

TUESDAY AFTERNOON, MAY 18, 1943
Foyer of the Grand Ball Room, Palmer House

3:00 The first meeting of the House of Delegates called to order by the President, Edward H. Weld, for Reports of officers, Councilors, Committees, Appointment of Reference Committees, Introduction of Resolutions, and for the transaction of other business which may come before the House.

THURSDAY MORNING, MAY 20, 1943
Red Lacquer Room, Palmer House

9:00 The second meeting of the House of Delegates called to order by the President for the Election of Officers, Councilors, Committees, Delegates and Alternates to the American Medical Association, Reports of Reference Committees and action on same, action on Resolutions, and for the transaction of other business to come before the House.

ALUMNI LUNCHEON

Several medical schools have arranged alumni luncheons to be held in the Palmer House, at noon, Wednesday, May 19. Tickets and complete information will be available at the Registration Booth, and also may be purchased from members of their respective committees. Short but snappy programs are being arranged for each of these functions.

VETERANS' SERVICE DINNER

TUESDAY, MAY 18TH — 6:00 P. M.

The Annual Dinner of the Veterans Service Committee will be held Tuesday evening May 18th at 6:00 P. M.

Speaker: Col. Don G. Hilldrup, Chief of the Medical Branch — Sixth Service Command.

Meeting will adjourn in time for members to attend the Oration in Medicine.

FIFTY YEAR CLUB LUNCHEON

Dr. Andy Hall as chairman of the Fifty Year Club, has arranged an interesting luncheon conference for this group to be held Wednesday noon, May 19th, in the Crystal Room of the Palmer House.

Announcements have been sent to all members, and all other physicians caring to attend, will be welcome.

Program

Andy Hall, Chairman, Presiding
Address of Welcome
Isaac Abt, Chicago
James B. Herrick, Chicago
Responses:
E. B. Montgomery, Quincy
Carl E. Black, Jacksonville

PRESIDENTS' DINNER

This dinner honoring the retiring president, and with past presidents of the Illinois State Medical Society as guests, will be held in the Grand Ball Room, Wednesday, May 19, at 7:00 P. M.

The dinner program will be short, and as a special feature of the evening, Col. Carlos P. Romulo, the last man off Bataan, will give an unforgettable message to everyone present pertaining to the present war in the far East. Col. Romulo was a member of General Douglas MacArthur's personal staff, and will give a most interesting talk.

Tickets for the dinner will be available at the Registration Booth, and also may be purchased from members of the Committee who will be present at all meetings. The dinner is informal. This means street clothes. Anyone except those at the speaker's table who wears dinner clothes will be fined one $25 War Bond.

DO NOT FAIL TO ATTEND THE PRESIDENTS' DINNER.

MATERNAL WELFARE COMMITTEE LUNCHEON

Private Dining Room No. 18
Palmer House

The annual luncheon of the Maternal Welfare Committee of the Illinois State Medical Society, will be held at the Palmer House at 12:00 noon, Wednesday, May 19, 1943.

T. B. Williamson, Chairman of the Committee, will preside and immediately following the luncheon service, a round table discussion on "The Newer Developments in Obstetrics" will be presented by Frederick H. Falls, Chicago; Milton E. Bitter, Quincy; and Joseph T. O'Neill of Ottawa.

FOR YOUR CONVENIENCE

The 103rd Annual Meeting of the Illinois State Medical Society on May 18, 19 and 20 at the Palmer House has arranged to keep you in touch with home and practice. Agnes Jones, Physicians Extension Secretarial Service, will have her well trained operators on duty near the entrance to the Exhibition Hall. Look for identifying signs. Then avail yourself of the service by reporting your room location, your anticipated meetings, and where you are going. Do this two or three times during the day, and the cooperation will pay in dividends.

No details will be omitted to make this meeting memorable. Navy Day (May 18) and Army Day (May 19) will provide the latest military medicine. Golf and the Presidents' Dinner will promote the social spirit we all need. Make your reservations early.

GOLF TOURNAMENT

A perfect warm up for the Illinois State Medical Society meeting at the Palmer House this year will be eighteen holes of golf at the Edgewater Country Club on the morning of May 18th. Your golf committee have attended to every detail, so that you may play promptly and return to the Palmer House in time for the afternoon sessions. A substantial amount of money allocated to attractive prizes may be the possession of the sharpshooters.

Edgewater Country Club is about a thirty minute drive from the Palmer House. Come early and your golf chairman will meet you at the first tee.

Robert E. Cummings, M. D., Chairman
Herbert Schmitz, M. D.
Eugene McEnery, M. D.
Robert Hawkins, M. D.
G. E. Johnson, M. D.

WOMEN'S AUXILIARY TO THE ILLINOIS STATE MEDICAL SOCIETY

ADVISORY COMMITTEE

Dr. Frank P. Hammond, Chairman ..... Chicago
Dr. Rollo K. Packard ..... Chicago
Dr. Harold M. Camp ..... Monmouth
Dr. S. E. Munson ..... Springfield
Dr. M. G. Carpenter ..... Elgin

Parliamentarian, Mrs. Clarence Goodwin .. Chicago

OFFICERS

Mrs. W. J. Wanninger, President ..... Chicago
Mrs. M. A. Nix, President-Elect ..... Princeton
Mrs. A. F. Gareiss, First Vice-President .... Chicago
Mrs. V. N. Seron, Second Vice-President ..... Joliet
Mrs. W. C. Bornemeier, Third Vice-President . Chicago
Mrs. C. R. Landis, Corresponding Secretary . Chicago
Mrs. E. G. Beatty, Treasurer ..... Pontiac
Mrs. E. W. Burroughs, Recording Secretary .... Shawneetown
Mrs. Harry Otten, Past President ..... Springfield

COUNCILORS

Mrs. A. E. McCornack, 1st District ..... Elgin
Mrs. R. E. Miltenberger, 2nd District .. Spring Valley
Mrs. J. P. Simonds, 3rd District ..... Chicago
Mrs. Lucius Cole, 3rd District ..... River Forest
Mrs. T. Johnston, 3rd District ..... Chicago
Mrs. D. E. Meier, 4th District ..... Kewanee
Mrs. L. N. Hamm, 5th District .... Lincoln
Mrs. H. M. Swanberg, 6th District ..... Quincy
Mrs. H. E. Snow, 7th District ..... Centralia
Mrs. S. M. Hubbard, 8th District ..... Ridge Farm
Mrs. W. E. Stanelle, 9th District .. New Shawneetown
Mrs. C. C. Kane, 10th District ..... East St. Louis
Mrs. Mat Bloomfield, 11th District ..... Joliet

CHAIRMEN OF STANDING COMMITTEES

Archives—Mrs. V. R. Vanstane ..... Chicago
Bulletin—Mrs. John Soukup ..... Chicago
Convention—Mrs. C. W. Stigman ..... Chicago
Credential and Registration—Mrs. C. C. Kane .. .. East St. Louis
Finance—Mrs. William Raim ..... Oak Park
Hygeia—Mrs. W. C. Bornemeier ..... Chicago
Legislation—Mrs. P. C. Bucy ..... Chicago
Organization—Mrs. M. A. Nix ..... Princeton
Press and Publicity—Mrs. J. E. McGuiggan . Chicago
Printing—Mrs. H. B. Henkel ..... Springfield
Program—Mrs. A. F. Gareiss ..... Chicago
Public Relations—Mrs. V. N. Seron ..... Joliet
Revisions—Mrs. Rollo K. Packard ..... Chicago

WOMEN'S AUXILIARY PROGRAM

All General Meetings and Social Activities are Open to All Doctors' Wives

TUESDAY, MAY 18, 1943

9:00 A.M. Registration — Palmer House Club Rooms

10:00 A.M. Pre-Convention Board Meeting — Room 11
Mrs. W. J. Wanninger, President, presiding

12:00 Noon Adjournment

1:30 P. M. General Meeting — Palmer House Club Room
Invocation — The Rev. Richard D. Taylor, Rector, Church of the Messiah, Chicago
Welcome — Mrs. C. W. Stigman, Convention Chairman
Response — Mrs. A. I. Edison, President, Woman's Auxiliary to the Chicago Medical Society
General Meeting — Mrs. W. J. Wanninger, President, presiding
Report: Credentials and Registration Committee
Mrs. C. C. Kane, Chairman

3:00 P. M. WOMEN AND A WORLD AT WAR — Dr. W. W. Bauer, Director, Bureau of Education, American Medical Association

6:00 P. M. Dinner — Palmer House. Club Room
Mrs. Alfred P. Gareiss, Chairman
Mrs. R. E. Johnson
Mrs. A. J. Weigen
Mrs. T. Johnston
Mrs. N. Dykstra
Mrs. M. R. Hadden
Greetings — Dr. E. H. Weld, President, Illinois State Medical Society
Guest Speaker — Dr. J. P. Simonds, Past President, Chicago Medical Society
Honored Guests — Mrs. G. Henry Mundt, Past President and organizer of the Women's Auxiliary to the Illinois State Medical Society
Mrs. Rollo K. Packard, Past National President
Introduction of Honored Guests, Officers, and Committees.
Program: Mrs. C. W. Stigman, Chairman
Miss Lois Wallner, Soprano
Mrs. Earl Wilkie, Baritone
Miss Isabel Ebert, Accompanist
Miss Dolly Lane, Dancer

ALL DOCTORS' WIVES AND GUESTS INVITED

WEDNESDAY, MAY 19, 1943

9:00 A.M. Registration — Palmer House, Red Lacquer Room
9:30 A.M. General Meeting
Mrs. W. J. Wanninger, President, presiding
Memorial Services — Mrs. P. P. Youngberg, Chairman
10:00 A.M. Final Reports
10:30 A.M. Symposium — PROBLEMS OF THE AUXILIARY, Mrs. Frank P. Hammond, Presiding
11:30 A.M. Final Report: Credentials and Registration
Mrs. C. C. Kane, Chairman
Resolutions: Mrs. L. D. Evans, Chairman
12:30 P. M. Presidents' Luncheon — Foyer, Fourth Floor
Mrs. W. J. Wanninger, President, presiding
Mrs. A. I. Edison, Chairman
Introduction of Past State Presidents and Guests.
Greetings — Dr. Frank P. Hammond
Address: Lt. Commander H. P. Saunders
2:00 P. M. Post-Convention Meeting — Room 9
Mrs. M. A. Nix, President, presiding
2:30 P. M. Tea and Tour, N. B. C. Studio, Merchandise Mart
Mrs. Frederick Tice, Chairman

Mrs. R. K. Packard	Mrs. J. S. Nagel
Mrs. R. S. Berghoff	Mrs. L. B. Joslyn

WEDNESDAY, MAY 19, 1943

Presidents' Luncheon — 12:30 P.M.
Mrs. Arthur I. Edison, Chairman

Mrs. M. R. Hadden	Mrs. H. I. Meyer
Mrs. N. Dykstra	Mrs. A. J. Linowiecki
Mrs. H. Christiansen	Mrs. E. M. Egan
Mrs. R. E. Johnson	Mrs. T. Johnston
Mrs. M. M. Hipskind	Mrs. A. J. Weigen

ALL PAST PRESIDENTS — HONORED GUESTS

2:30 P. M. Tea and Tour, N. B. C. Studio, Merchandise Mart

SCIENTIFIC EXHIBITS

Frank J. Jirka, Chairman ..... Chicago
H. Close Hesseltine, Director of Exhibits ... Chicago

"The Value of Mice in Cancer Research"
The Women's Field Army of the American Society for the Control of Cancer

"Epidemic Kerato-Conjunctivitis."
G. Henry Mundt, Chicago

"Diseases of the Thyroid Gland"
Arnold S. Jackson and Luther E. Holmgren, The Jackson Clinic, Madison, Wisconsin.

"Health Protection in War Industries."
Roland R. Cross, Director, Department of Public Health, State of Illinois, Springfield.

"Illinois Department of Public Health at War."
Robert S. Berghoff, Chairman, Illinois Board of Public Health Advisors, Illinois Department of Public Health, Chicago.

"Syphilis and War."
Roland R. Cross, Director, Department of Public Health, State of Illinois, Springfield.

"Visual Education in Obstetrics"
Roland R. Cross and Frederick H. Falls, Department of Public Health, State of Illinois, Springfield.

"Basal Anesthesia with Pentothal Sodium."
M. L. Weinstein, Geraldine Light and Vera Kable, Chicago.

"Caterpillar Tractor Company Health Program During Time of War."
Harold A. Vonachen, Peoria.

"Intra-Capsular Fractures of the Neck of the Femur."
A. A. Mertz, Decatur.

"Skeletal Traction for Forearm Fractures."
John D. Ellis, Chicago.

"Medical Care Program of the Division of Public Assistance."
Mr. Rodney H. Brandon, Director, Department of Public Welfare, State of Illinois, Springfield.

"Modified Paris Technique of Radium Therapy for Uterine Cervical Cancer."
Harold Swanberg, Quincy X-Ray and Radium Laboratories, Quincy.

"Anatomical Presentation of Bronchial Tree From Endoscopic Standpoint."
E. W. Hagens, Department of Otolaryngology, Northwestern University Medical School, Chicago.

"Studies on Kidney Function. Extravasation of Urine. Bladder Regeneration."
V. Lespinasse and Victoire Lespinasse, Department of Urology, Northwestern University Medical School, Chicago.

"Pharmaceutical Preparations of the Newer Therapeutic Agents."
Mr. Lawrence Templeton, University of Illinois College of Pharmacy, Chicago.

"Hemorrhage"
F. H. Falls and Miss C. S. Holt, University of Illinois College of Medicine and the Illinois Department of Public Health, Chicago.

"Processing Blood Plasma for the Army and Navy."
Mr. George R. Ryan, Abbott Laboratories, North Chicago.

"Rheumatic Fever."
Metropolitan Life Insurance Company, New York.

"Oral Manifestations of Occupational Origin."
I. Schour, D.D.S., and B. G. Sarnat, D.D.S., University of Illinois, Chicago.

"Chicago Venereal Disease Control Program."
Herman N. Bundesen, President, Chicago Board of Health, Chicago.

"Pyelography in Retroperitoneal Tumors in Children."
K. E. Barber, Children's Memorial Hospital, Chicago.

"Unifying Medical Services in Lake County." — A Plan and Practice Using Navy, Army, Veterans Administration, Industrial and Civilian Medical Personnel and Material.
George B. Callahan, Waukegan.

"Information about Industrial Health."
Council on Industrial Health, American Medical Association, Chicago.

"Erythroblastosis Fetalis."
Edith L. Potter and F. L. Adair, Chicago Lying-In Hospital, and Illinois Department of Public Health, Chicago.

"Procurement and Assignment Service for Physicians."
Charles H. Phifer, Chairman, Sixth Service Command, Chicago.

"Medical Profession in Civilian Defense."
H. L. Pettitt, L. H. Gaston, John S. Coulter, Sixth Civilian Defense Region, Chicago.

"Sanitary and Public Health Engineering Problems in Civilian Protection."
Mr. Wm. H. Cary, Jr., Regional Sanitary Engineer, Sixth Civilian Defense Region, Chicago.

"Congenital and Developmental Malformations of the Mandible."
V. P. Blair and L. T. Byars, Dept. of Surgery, Washington University School of Medicine, St. Louis, Mo.

"Health for Victory Club."
Westinghouse Electric & Manufacturing Company, Mansfield, Ohio.

Technical Exhibitors

Abbott Laboratories, North Chicago, Illinois
American Hospital Supply Corporation, Chicago, Illinois
The Armour Laboratories, Chicago, Illinois
Ayerst, McKenna & Harrison, Rouses Point, New York
The Biochemical Research Laboratories, Chicago, Illinois
Bilhuber-Knoll Corporation, Orange, New Jersey
Ernest Bischoff Company, Inc., Ivoryton, Connecticut
The Borden Company, New York, New York
Burroughs Wellcome & Company, Inc., New York, New York
Cambridge Instrument Company, Inc., New York, New York
Camel Cigarettes, New York, New York
Cameron Surgical Specialty Company, Chicago, Illinois
Carnation Company, Milwaukee, Wisconsin
Chicago Pharmacal Company, Chicago, Illinois
Ciba Pharmaceutical Products, Inc., Summit, New Jersey
F. A. Davis Company, Philadelphia, Pennsylvania
DePuy Manufacturing Company, Warsaw, Indiana
Doak Company, Incorporated, Cleveland, Ohio
The Doho Chemical Corporation, New York, New York
Eli Lilly and Company, Indianapolis, Indiana
C. B. Fleet Co., Inc., Lynchburg, Virginia
Flint Eaton & Co., Decatur, Illinois
General Electric X-Ray Corp., Chicago, Illinois
Gerber Products Company, Fremont, Michigan
Otis E. Glidden & Co. Inc., Evanston, Illinois
H. J. Heinz Company, Pittsburgh, Pennsylvania
Hoffman-La Roche Inc., Nutley, New Jersey
Horlick's Malted Milk Corporation, Racine, Wisconsin
Kellogg Company, Battle Creek, Michigan
The Kelley-Koett Mfg. Co., Inc., Covington, Kentucky
Lederle Laboratories, Inc., New York, New York
Libby, McNeill & Libby, Chicago, Illinois
J. B. Lippincott Company, Philadelphia, Pennsylvania
Mead Johnson & Company, Evansville, Indiana
The Medical Protective Company, Fort Wayne, Indiana
Mellin's Food Company, Boston, Massachusetts
The Wm. S. Merrell Company, Cincinnati, Ohio
The C. V. Mosby Company, St. Louis, Missouri
M. & R. Dietetic Lab., Inc., Columbus, Ohio
V. Mueller & Company, Chicago, Illinois
Nutrition Research Laboratories, Chicago, Illinois
Parke, Davis & Company, Detroit, Michigan
The E. L. Patch Co., Stoneham, Massachusetts
Pet Milk Sales Corp., St. Louis, Missouri
Petrogalar Laboratories, Inc., Chicago, Ill.
Philip Morris & Co., Ltd., Inc., New York, New York
Picker X-Ray Corporation. New York, New York
The Proctor and Gamble Company, Ivorydale, Ohio
Riedel — deHaen, Inc., New York, New York
W. B. Saunders Company, Philadelphia, Pennsylvania
Schering Corporation, Bloomfield, New Jersey
Sharp & Dohme, Philadelphia, Pennsylvania
Smith, Kline & French Laboratories, Philadelphia, Pennsylvania
S.M.A. Corporation, Chicago, Illinois
E. R. Squibb & Sons, New York, New York
Sterling-Winthrop Research Institute, Rensselaer, New York
Frederick Stearns & Company, Detroit, Michigan
Sutliff & Case Co., Inc., Peoria, Illinois
White Laboratories, Inc., Newark, New Jersey
Winthrop Chemical Company, Inc., New York, New York
John Wyeth & Brother, Inc., Philadelphia, Pennsylvania
Zimmer Manufacturing Co., Warsaw, Indiana

NOTES ON TECHNICAL EXHIBITS

ABBOT LABORATORIES, Booth 81

Not for nothing has the Abbot Laboratories been awarded the Army-Navy E award which has recently been renewed by the addition of a star indicating sustained merit in the war effort.

Not for nothing has Abbott Research products been Council-Accepted so extensively. We point, we think, with pardonable pride to the evidence of quality shown in this wide council acceptance.

Abbot-Trained Representatives in attendance eagerly await an opportunity to discuss with you the wide assortment on display, including some of the very new specialties.

Please! Consider this a hearty invitation to visit our booth.

AMERICAN HOSPITAL SUPPLY CORPORATION, Booth No. 14

On display in Booth 14, occupied by American Hospital Supply Corporation, will be two new items of especial interest to all hospital people. Biodyne, the new healing agent for burns which has had so much favorable clinical comment, and Derma-Fresh, the body-rub which is so superior to hard-to-get alcohol.

Demonstrations of the E and J Resuscitator and a complete presentation of the Baxter Intravenous Therapy program will also be featured at the American booth.

THE ARMOUR LABORATORIES, Booths Nos. 87 and 88

A cordial invitation is extended to members of the Illinois State Medical Society to visit their exhibit in booths Nos. 87 and 88. The physicians will find an interesting exhibit on Thyroid. Case reports of thyroid deficiencies will be exhibited by means of wax models depicting cases of thyroid deficiencies before and after treatment. Armour's new and complete booklet on Thyroid also awaits you at the exhibit

AYERST, McKENNA & HARRISON (UNITED STATES) LIMITED, Booth No. 33

Naturally occurring orally-active estrogenic hormones, "Premarin" and "Emmenin", the origination of which figures prominently in the background of Ayerst, McKenna & Harrison, will be given precedence in their display.

"Premarin", which culminates a ten years' search for a highly potent natural estrogen for oral administration, will be of particular interest. Reprints of original papers on the clinical value of this new product, by nationally prominent investigators, will be made available to interested members of the medical profession at the Ayerst booth.

BILHUBER-KNOLL, Booth No. 80

The "Council Accepted" prescription chemicals of Bilhuber-Knoll find an important place in war-time medicine because of their proved effectiveness and dependability. Metrazol — the respiratory and circulatory restorative; Theocalcin diuretic and myocardial stimulant; and Dilaudid-analgesic and cough sedative are receiving increasing use by the Army, Navy, and other governmental agencies. Art Murbach and Basil Kidwell will be on hand to discuss the latest reports on these and other well-known medicinal chemicals, including Phyllicin, Euresol and Bromural.

THE BIOCHEMICAL RESEARCH LABORATORIES, Booth 17

At our booth we intend to display our products and to discuss them with doctors who are interested.

ERNST BISCHOFF COMPANY, INC., Booth No. 13

In our exhibit we shall feature Lobelin-Bischoff, respiratory stimulant and resuscitant in Asphyxia neonatorum; Anayodin, an effective, nonfoxic amebacide; Diatussin and Diatussin Syrup, antispasmodic; Activin, a foreign protein for non-specific therapy; Viscysate, for the symptomatic relief of Hypertension; Sas-Par, antipruritic, Oral treatment for Psoriasis.

THE BORDEN COMPANY, Booth 93

Today, with more American babies to be fed than ever before, The Borden Company is resolved to use every available resource to maintain an unfailing supply of scientific formula foods which provide the well balanced nutrition so essential in early life. These include Biolac, New Improved Dryco, Mull-Soy, Klim, Merrell-Soule Powdered Milks, and Borden's Irradiated Evaporated Milk.

BURROUGHS WELLCOME & COMPANY (U.S.A.) INC., Booth No. 99

BURROUGHS WELLCOME & CO. (U. S. A.) INC., New York (Booth No. 99) presents a representative group of fine chemicals and pharmaceutical preparations, together with new and important therapeutic agents of special interest to the medical profession.

CAMBRIDGE INSTRUMENT COMPANY, Booth No. 9

The great increase in cardiac cases due to anxiety and overwork incidental to the times, makes the Cambridge Instrument Company exhibit of cardiac diagnostic instruments particularly timely. In Booth No. 9 they will feature as part of a complete exhibit of Cardiac Diagnostic instruments, the compact, lightweight, portable "Simpli-Trol" model Electrocardiograph-Stethograph that produces electrocardiogram and stethogram separately or simultaneously. Cambridge Electrocardiographs for large or small hospital, research laboratory, clinic or private office, will also be demonstrated at this exhibit.

CAMEL CIGARETTES, Booths 3 and 4

CAMEL Cigarettes will exhibit large detailed photographs of equipment used in comparative tests of the five largest-selling brands of cigarettes. Representatives will be available to discuss research. See for the first time the dramatic visualization of nicotine absorption from cigarette smoke in the human respiratory tract. Keep up to the minute on international news with the CAMEL Cigarette Trans-Lux "Flash Bulletins," while you enjoy a supply of slow-burning CAMEL Cigarettes.

CAMERON SURGICAL SPECIALTY COMPANY, Booth No. 78

See the Cameron Flexible Gastroscopes, Bronchoscopes, Esophagoscopes, Laryngoscopes, Binocular Prism Loupe, Color-Flash Clinical Camera, Mirrolite, Magniscope, and other new developments in electrically lighted Diagnostic and Operating Instruments for all parts of the body. Of special interest are the new Electro Surgical Units (the genuine Radio Knives) for cutting, coagulating, desiccating and fulgurating in all sizes from the office model Cauteradio to major Hospital Units with abundance of power for radical surgery.

CARNATION COMPANY, Booth 101

Be sure to visit the Carnation Company exhibit in Booth No. 101. There you will see displayed an interesting model of the famous Carnation Milk Farm where cattle breeding and feeding experiments are carried on for the purpose of improving the dairy herds supplying the many Carnation evaporating plants. The story of the careful processing of Irradiated Carnation Milk is also told in an interesting manner.

CHICAGO PHARMACAL COMPANY, Booth No. 1

We will exhibit a complete pharmaceutical line which includes ampuls, tablets, friable pills, ointments, suppositories, elixirs, syrups and sterile solutions. Catalogs and samples will be distributed. Mr. B. M. Cahill will be in charge, assisted by local representatives. Our firm established in 1900 caters exclusively to the medical profession.

CIBA PHARMACEUTICAL PRODUCTS, INC., Booth No. 107

Physicians are cordially invited to visit booth number 107 where the well-known products of Ciba Pharmaceutical Products, Inc.- are on display. Three new additions to the fine line of Ciba pharmaceuticals merit your attention. They are: Biotose, Trasentine-Phenobarbital and Privine. A well-informed representative of the company will be in attendance to supply information on any Ciba preparation.

F. A. DAVIS COMPANY, Booth 83

You carry Life and Accident Insurance to protect your family, Fire Insurance to protect your property, Automobile Liability and Medical Protective Insurance to protect your savings. Thirty thousand doctors have already **insured** their professional future by purchasing "The Cyclopedia of Medicine, Surgery and Specialties." Better insurance is not obtainable. See the new edition at Booth 83.

DEPUY MANUFACTURING COMPANY, Booth No. 2

"We are pleased to submit to the Surgeons of the Illinois State Medical Society Lorenzo Hip Screw and the Pease Bow with the Thomson Beaded Wire. These are two items which have attracted a great deal of attention among the surgeons over the country and we are pleased to exhibit these appliances at your meeting. Call at our booth No. 2."

DOAK COMPANY INCORPORATED, Booth No. 82

DOAK, DIASPORALS
in
DERMATOLOGY
INDUSTRIAL DERMATITIS
and its
PREVENTION
Cleveland, Ohio
Samples on Request.

THE DOHO CHEMICAL CORPORATION, Booth No. 72

The Auralgan Exhibit consists of a model of the human auricle four feet high together with a series of twenty-four three dimensional ear drums, modelled under the supervision of outstanding otologists. Each of these drums depict a different pathologic condition based upon actual case observation, and prepared, in so far as possible, with strict scientific accuracy so as to be highly instructive and interesting to all physicians.

ELI LILLY AND COMPANY, Booth No. 65

The Lilly exhibit is presented as a mark of respect for the Illinois State Medical Society. Many Lilly products will be shown and attending Lilly medical service representatives will be pleased to aid physicians whenever possible.

C. B. FLEET CO., INC., Booth No. 7

PHOSPHO-SODA (FLEET)

An ethical product for over half a century — a saline eliminant.

What may you, as a physician, expect from this stable, non-toxic concentrate of the two U. S. P. sodium phosphates?

1. Accurate dosage, regulated to the patient and to his condition.
2. The maximum therapeutic effectiveness of sodium phosphate.
3. Quick, gripeless evacuation, for emergencies.
4. Mild, controllable elimination, for chronic biliary disturbance or constipation.
5. Unusual freedom from after-irritation, with normalizing buffer action.
6. Safe action with administration of the sulfonamides.

Are you getting the full value of medication in your daily problems of elimination?

FLINT, EATON & COMPANY, Booth No. 61

At Booth No. 61, Flint, Eaton & Company will have representatives to discuss the topical use of the Sulfonamides and show you a new type of insufflator tube for applying these chemotherapeutic agents uniformly to injured areas. In addition, there will be on display such popular Flint, Eaton & Company specialities as Calcium-Gluconate-Effervescent, Thiadin, Vitaplex, Bismuth-Kaolin and many others. A hearty welcome awaits you at Booth No. 61.

GENERAL ELECTRIC X-RAY CORPORATION Booth 105

The General Electric X-Ray Corporation invites you to visit our exhibit and learn first-hand information concerning our service program as well as study our complete line of merchandise for x-ray and electromedial requirements. We shall try to answer all questions and do what we can to make your visit here with us worthwhile.

GERBER BABY FOODS, Booth 95

The complete line of Gerber Baby Foods will be on display. There are two precooked dry cereals, one a wheat, the other an oatmeal cereal, a variety of Strained Foods and of Chopped Foods.

Booklets available for distribution to mothers or patients on special diets as well as professional literature will be sent to registrants, for examination.

OTIS E. GLIDDEN AND COMPANY, INC., Booth No. 67

Be sure to visit Booth No. 67, obtain full information on "IMPROVED ZYMENOL," Brewers Yeast content increased to 45%, mineral oil reduced to 50%. Now more than ever an effective two-fold natural therapy for CONSTIPATION COLITIS AND common DIARRHEA.

DOES NOT CONTAIN any irritant laxative drug. No artificial bulk or roughage. Sugar free.

H. J. HEINZ COMPANY, Booth No. 74

All physicians practicing pediatrics or prescribing soft diets should see the Heinz display featuring Strained and Junior Foods.

Be sure to register for the 11th edition of the Nutritional Chart, as well as our new Special Dietary Foods booklet and Baby's Diary and Calendar.

HOFFMAN-LA ROCHE INC., Booth No. 77

War shortages of atropine and belladonna have greatly increased physicians' interest in Syntropan. This anti-spasmodic will be one of the featured products in the Roche exhibit.

The many uses for which PROSTIGMIN has proven to be effective will also be described by representatives of the Roche Medical Division, who will be in attendance.

There will also be other pharmaceutical prescription specialties of rare quality that emanate from Roche Park where vitamins by the ton are produced.

HORLICK'S MALTED MILK CORPORATION, Booth No. 12

HORLICK'S MALTED MILK CORPORATION, Racine, Wisconsin (Booth 12) cordially invites you to visit their booth and enjoy a refreshing serving of chocolate malted milk. This palatable, delicious and easily digested food-drink is indicated as a supplement to liquid and semiliquid diets. It is basic nutrition because it is a scientifically well-balanced combination of proteins and carbohydrates of full-cream milk and choice grains.

THE KELLEY-KOETT MANUFACTURING COMPANY, Booth No. 76

The Kelley-Koett Manufacturing Company of Covington, Kentucky, manufacturers of X-ray apparatus, are exhibiting in Space No. 76 this year.

Conservation of existing X-ray equipment is of paramount importance to all physicians and hospitals. KELEKET has worked out a Conservation Plan that is unique and will be of interest to all owners of X-ray equipment. We recommend that you investigate this at their booth.

KELEKET will also show a line of accessories and supply items for the X-ray laboratory and dark room. This entire exhibit promises to be a very interesting one.

The KELEKET exhibit will be in charge of Mr. G. E. Geise, Vice President, assisted by Mr. H. D. Welch, Chicago district manager, Mr. Frank Geiger, Mr. J. F. McManemin, Mr. G. C. Heppe, Mr. G. L. Templar, Mr. P. Schick and other members of our Illinois staff.

THE KELLOGG COMPANY, Booth No. 57

All Kellogg ready-to-eat cereals either are made from whole grains or are restored to whole grain nutritive value.

Kellogg's Pep, (whole wheat flakes), in addition to being restored to whole grain value, has been fortified with Vitamins B_1 and D.

Corn Flakes and Rice Krispies may be included freely in wheat-free and low residue diets. Nutrition folders and further information about these products available at Kellogg exhibit.

LEDERLE LABORATORIES, INC., Booth No. 63

"The Lederle Laboratories will exhibit their complete line of pharmaceutical specialties and biological products, with particular attention to such new items as sulfadiazine ointment, sodium sulfathiazole and sodium sulfadiazine intravenous liquids; the seasonal pollen antigens and all of the important vitamin products."

LIBBY, McNEILL & LIBBY, Booth No. 102

The interesting story of Libby's Homogenized Baby Foods and Evaporated Milk is dramatically presented at Libby's "Little Theatre" which has attracted so much attention at previous conventions. Spectators may see the story of these products in a slide film while they listen in on the dialogue over telephone installed at the booth. Competent representatives will be present to discuss the special advantages of Libby's Homogenized Baby Foods in the infant dietary.

J. B. LIPPINCOTT COMPANY, Booth No. 59

Lippincott's headliner is the new one-volume war edition of Thorek's MODERN SURGICAL TECHNIC. Other important new books: Ferguson's SURGERY OF THE AMBULATORY PATIENT, Strecker's FUNDAMENTALS OF PSYCHIATRY, Kampmeier's ESSENTIALS OF SYPHILOLOGY, and Sappington's ESSENTIALS OF INDUSTRIAL HEALTH.

M & R DIETETIC LABORATORIES, INC., Booth No. 94

"M & R Dietetic Laboratories, Inc., booth number 94, will display Similac, a food for infants deprived partially or entirely of breast milk; also powdered SofKurd. Representatives will appreciate the opportunity to discuss the merit and suggested application of these products."

MEAD JOHNSON & COMPANY, Booths 15 & 16

"Servamus Fidem" means We Are Keeping the Faith. Almost every physician thinks of Mead Johnson & Company as the maker of Dextri-Maltose, Pablum, Oleum Percomorphum and other infant diet materials. But not all physicians are aware of the many helpful services this progressive company offers physicians. A visit to Booths Nos. 15 and 16 will be time well spent.

MEDICAL BUSINESS BUREAU MANAGEMENT, INC., Booth 89

MEDICAL PROTECTIVE COMPANY, Booth No. 18

The Medical Protective Company's representative, thoroughly trained in Professional Liability underwriting, invites you to visit exhibit booth No. 18. He is entirely familiar with the principles of the reciprocal rights and duties of a doctor and patient and with the circumstances peculiar to that relationship. He will be glad to explain how his Company meets the exacting requirements of adequate liability protection, which are peculiar to the Professional Liability field.

MELLIN'S FOOD, Booth 96

An exchange of ideas relative to the feeding of infants and in regard to the nourishment for adults requiring a restricted diet are of much value in view of the importance of selecting food best adapted to the individual requirement.

The Chicago Meeting will afford an opportunity for such discussion with representatives of the Mellin's Food Company and members of the Association are cordially invited to call at Space 96.

WM. S. MERRELL COMPANY, Booth 47

The Merrell exhibit will feature NITRANITOL, for medical management of essential hypertension, the BETA-CON-CEMIN high potency vitamin B complex products, and other modern therapeutic agents of broad usefulness to the practicing physician. Members and guests of the Society are cordially invited to visit the Merrell booth.

C. V. MOSBY COMPANY, Booth 60

New books and new editions which will be displayed by the C. V. Mosby Company include Trueta "Principles and Practice of War Surgery," Titus "Atlas of Obstetric Technic," Howles "A Synopsis of Clinical Syphilis," Barnes "Endoscopic Prostatic Surgery," Major "Fractures of the Jaws," and Schaub-Foley "Methods for Diagnostic Bacteriology." You are cordially invited to inspect these, as well as many other publications of timely interest, at Booth No. 60.

NUTRITION RESEARCH LABORATORIES

NUTRITION RESEARCH LABORATORIES will present three products, all of which are of extreme interest to the medical profession.

ERTRON, electrically activated vaporized ergosterol (Whittier Process) 50,000 U.S.P. units per capsule, continues to gain favor with members of the medical profession because of its therapeutic value in the treatment of chronic arthritis.

BEZON, Whole Natural Vitamin B Complex in capsule form, containing the whole B complex, derived entirely from natural sources and concentrated to a high potency.

PENDRON, the complete vitamin arch, containing all of the vitamins in amounts recommended by official governmental agencies and in addition recently discovered vitamin B factors — Vitamin B6 (Pyridoxine Hydrochloride) and Calcium Pantothenate (Filtrate Factor).

We welcome the opportunity of discussing all three products with members of the Illinois State Medical Society.

PARKE DAVIS & COMPANY, Booth No. 58

At the Parke-Davis Exhibit, which has been streamlined because of present war-time requirements, you will find many new and scientific Pharmaceutical and Biological Products. Included in this display are such outstanding preparations as Phemerol, a non-toxic germicide and antiseptic; Vitamins; Sulfa Drugs; Despeciated Anti-toxins, and a number of other products of timely interest. Able and courteous members of the Parke, Davis & Co. Staff are in daily attendance to serve you.

PET MILK COMPANY, Booths 90 and 91

An actual working model of a milk-condensing plant in miniature will be exhibited by the Pet Milk Company in Booths No. 90 and No. 91. This exhibit offers an opportunity to obtain information about the production of Irradiated Pet Milk, its uses in infant feeding, and the time-saving Pet Milk services available to physicians. Miniature Pet Milk cans will be given to each physician who visits the Pet Milk Booth.

PETROGALAR LABORATORIES, INC., Booth No. 92

Physicians are cordially invited to visit the Petrogalar exhibit at Booth No. 92, where a new and enlightening story on Petrogalar, an aqueous suspension of mineral oil, will be related. Beautifully colored anatomical drawings and new literature may be had upon request from our professional representatives who will be in constant attendance.

PHILIP MORRIS & CO., LTD., INC., Booth No. 64

Philip Morris & Company will demonstrate the method by which it was found that Philip Morris Cigarettes, in which diethylene glycol is used as the hygroscopic agent, are less irritating than other cigarettes. Their representative will be happy to discuss researches on this subject, and problems on the physiological effects of smoking.

PICKER X-RAY CORPORATION, Booth No. 106

In welcoming visitors to their exhibit, the Picker X-Ray Corporation is pleased to display the U. S. Army Field Unit and the Light-Weight Air-Flow Unit, both of which are in extensive use in the Army.

The Field Unit is designed for Radiography, Fluoroscopy, Superficial Therapy, and Foreign Body Localization.

The Air Flow Unit contains its own localization table, and may also be used as radiographic equipment.

THE PROCTOR & GAMBLE COMPANY, Booth 8

The Proctor & Gamble booth will feature a demonstration of some of the qualities of Velvet Suds Ivory Soap. These are the qualities which have prompted more doctors to recommend Ivory Soap for their patients than all other brands of soap put together.

Copies of Ivory's new booklet, "Bathing Your Baby The Right Way," prepared with the cooperation of a world-famous maternity center. Sample of pure, mild, Ivory Soap will be given to all doctors stopping at the booth.

W. B. SAUNDERS COMPANY, Booth No. 108

This publishing house will exhibit a complete line of their books. Most of them, particularly the new ones, are of unusual interest at this time, not alone to the doctors in civilian practice but also to those in the Medical Corps of the various branches of the Service. For instance, there are the Official Military Medical and Surgical Manuals published by Saunders under the auspices of the National Research Council, Lundy's "Anesthesia," Weiss & English's "Psychosomatic Medicine," Wharton's "Gynecology including Female Urology," Rehfuss' "Indigestion," Dry's "Cardiology," the new Boyd's "Surgical Pathology," the new Beckman's "Treatment," the new Christopher's "General Surgery," the new Mason's "Pre- and Postoperative Treatment."

SCHERING CORPORATION, Booth 66

Physicians are invited to the Schering booth where they will find information and literature dealing with recent and endocrine advances. The new sublingual of the adrenal cortex — will be demonstrated. Representatives will be pleased to discuss the speciality hormones, Progynon, Oreton, Proluton, and Pranone. Available, too, is the latest literature concerning modern therapy of rheumatoid arthritis with Schering's gold compound, Solganal-B Oleosum.

SHARP & DOHME, Booth 79

Sharp & Dohme will have their display at Booth No. 79, featuring "Lyovac" Normal Human Plasma, other "Lyovac" biologicals and biological specialties. There will also be on display a group of pharmaceutical specialties, such as "Sulfasuxidine" succinylsulfathiazole, "Delvinal," Sodium, "Propadrine" Hydrochloride products. "Rabellon," "Riona," "Depropanex," and "Prohexinol." Capable well-informed representatives will be on hand to welcome all visitors and furnish information on Sharp & Dohme products.

S.M.A. CORPORATION, Booth 97

Among the technical exhibits at the convention this year is an interesting new display, which represents the selection of infant feeding and vitamin products of the S. M. A. Corporation. Physicians who visit this exhibit at Booth No. 97 may obtain complete information as well as samples, of S-M-A Powder and the special milk preparations — Protein S-M-A (Acidulated), Alercex and Hypo-Allergic Milk.

SINGER SEWING MACHINE CO.
Demonstration-Booths No. 85 and No. 86
Motion Picture Display-Booths No. 20 and No. 21

The Singer Sewing Machine Company takes pride in presenting and demonstrating its Surgical Stitching Instrument to the Members of the Illinois State Medical Society.

Developed in close cooperation with the surgical profession, this Instrument is the result of extensive research and is constructed with the same craftsmanship that has distinguished Singer Sewing Machines for almost a century. Clinical trials have definitely proved its success and practicability under the most difficult operating conditions.

SMITH, KLINE & FRENCH LABORATORIES
Booth No. 19

Benzedrine Sulfate Tablets will be featured at this exhibit. It has been said that Benzedrine Sulfate offers "a therapeutic rationale which, in its very efficiency, cuts across the old categories." It is, therefore, useful in many widely varied fields of medicine.

Won't you call upon us if you desire information about the use of this highly important compound in depressive

states; as an adjunct in the treatment of alcoholism; and in post-encephalitic parkinsonism, narcolepsy? One of our professional representatives will be glad to discuss with you its potentialities and possible indications in your own practice.

Benzedrine Inhaler, N.N.R., "Paredrine Hydrobromide Aqueous", "Paredrine" — Sulfathiazole Suspension, Eskay's pentaplex and Pragmasul will also be exhibited.

E. R. SQUIBB & SONS, No. 98

The Squibb Exhibit in Booth No. 98 will feature a number of new Chemotherapeutic Specialties, as well as the latest additions to their line of Vitamin, Glandular and Biological Products. Well informed Squibb representatives will be on hand to welcome you and to furnish any information desired on the products displayed.

SUTLIFF & CASE CO., INC., Booth 103

Sutliff & Case Co., Inc., established sixty years ago will display a portion of the many pharmaceutical items they manufacture. Their Illinois representatives will be on hand to greet you and will have any information you wish on their fine line of pharmaceuticals.

WHITE LABORATORIES, INC., Booth No. 70

Within recent years tremendous advances in vitamin research have added a wealth of clinical data to our knowledge of nutrition.

The intense interest of the laity, in the vitamins — often, unfortunately, confused and misled by unauthoritative lay advertising and uninformed "information" — can be properly controlled by the physician's interpretation of the actual usefulness of the vitamins to his patients.

In Booth No. 70 White Laboratories, Inc. presents its complete line of ethically promoted, clinically reputable vitamin preparations. Qualified representatives are in attendance to discuss with you the use of White's products in vitamin prophylaxis and therapy. Descriptive literature is available for your review, and a cordial welcome awaits you.

WINTHROP CHEMICAL CO., INC., Booth No. 56

The Winthrop Chemical Co., Inc., extends a cordial invitation to visit booth No. 56, where representatives will gladly discuss the latest contributions made by this firm to the medical profession.

ILLINOIS STATE MEDICAL SOCIETY
103 Annual Meeting
Chicago, Illinois
May 18, 19, 20, 1943

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Original Articles

TREATMENT OF SHOCK FROM WAR WOUNDS

HENRY N. HARKINS, M.S., M.D., Ph.D., F.A.C.S.
DETROIT

The subject of treatment of shock from war wounds is of vital interest at the present time. Many advances have been made in the therapy of this syndrome during the quarter of a century which has elapsed since the last war. It is wise at this time to take stock of the present status of knowledge of shock.

Shock may be defined as a *progressive vasoconstrictive oligemic anoxia.* Each word in this definition implies a certain therapeutic responsibility. The *progressive* nature of shock indicates *a need* for haste in applying treatment. The *vasoconstrictive* element makes the use of vasoconstrictor drugs a mere symptomatic remedy in many cases, and more or less adds insult to injury. The *oligemic* aspect of shock offers the best lead for therapy and points out the importance of blood replacement therapy. Finally, the *anoxia* so often present in shock, with the associated cyanosis, acidosis, and decreased tissue metabolism argues for a correction of this condition. Such anoxia may be controlled either by furnishing additional oxygen to the lungs or by speeding up the blood flow so that that oxygen which is available will be more quickly transported.

Physiologic Changes in Shock. — The physiologic changes in shock include more than a fall in blood pressure and are shown in Table I. Of all these changes, oligemia is probably the most important and is the underlying factor in the causation of several of the other changes. Thus, the decreased cardiac output is due to the lack of sufficient blood for the heart to propell. The diminished blood flow, in turn, is associated with the decreased cardiac output. Because insufficient blood and oxygen are furnished to the tissues a decreased metabolism, anoxia, and capillary congestion result. The vasomotor center is perfectly well maintained during the early stages of shock, contrary to previous popular opinion, and the blood vessels constrict in an effort to keep the arterial blood pressure near normal in spite of the oligemia. Finally, the decrease in blood volume is too great for the vasoconstrictive capacities of the arterioles to act upon and the later stages of shock ensue. The vasomotor center loses its tone and the blood pressure falls rapidly. If the arterial hypotension persists for more than a short period, treatment is of no avail and the irreversible stage of shock has developed.

TABLE I

Physiologic Changes in Shock.
1. Oligemia.
2. Diminished blood flow.
3. Decreased cardiac output.
4. Fall in arterial blood pressure.
5. Acapnia.
6. Decreased muscle tonus.
7. Decreased venous pressure.
8. Hemoconcentration.
9. Vasoconstriction.
10. Decreased metabolism.
11. Capillary congestion.
12. Hyperpotassemia.

Irreversibility of the Shock Syndrome. — A differentiation between initiating, accompanying, and perpetuating factors in shock is often ar-

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bitrary. Possible perpetuating factors are listed in Table 2. From the practical standpoint, it cannot be pointed out too often that treatment should be begun before the stage of irreversibility ensues. Even before the last war, Pilcher and Sollmann (1914) demonstrated that shock from as simple a cause as hemorrhage is irreversible. These authors found that as dogs are bled, if the blood is reinjected during an early stage of the process, recovery may result, but later, blood pressure "can only be brought back to 60 mm., no matter how much fluid is injected." This conclusion has been substantiated by Blalock (1934), as well as by many other investigators, and applies equally well to shock due to other causes than hemorrhage alone.

TABLE 2

Possible Perpetuating Factors in Shock.
1. Anoxia.
2. Hyperpotassemia.
3. Continued vasoconstriction.
4. Adrenal cortical insufficiency.
5. Action of tissue metabolites or toxins.
6. Nervous factors.

General Treatment of Shock. — Much of the older treatment of shock was empiric. Such management included rest, quiet, elevation of the feet, warmth and administration of sedatives, stimulants, and vasospastics. The use of rest, quiet, and elevation of the feet is well substantiated by recent studies, but the application of warmth is of more doubtful value. Blalock (1914) showed experimentally that shocked animals which were kept cool lived longer than those which were kept warm. Until this aspect of the subject has been definitely settled clinically, it would seem best to preserve the patient's own body warmth, but not to *furnish* additional heat. The administration of sedatives, stimulants, and vasospastics is largely empirical and while useful to a certain extent, should not delay the application of more specific therapy.

Two items of specific treatment may prove extremely useful, but are still in somewhat of an experimental stage. These include adrenal cortical extract and oxygen. The effectiveness of various types of adrenal cortical extract may differ considerably and the synthetic desoxycorticosterone may have a different action than the natural extracts. Oxygen is useful in some cases and should be always kept in mind. Mutch (1940) presented a useful method of remembering the amount of oxygen available by the different methods in use. As shown in Table 3, these are multiples of 15. Where only a small amount of oxygen is needed, nasal catheters attached to a Tudor-Edwards spectacle frame are useful. In more serious cases tents or masks are indicated.

The most important element in shock treatment is the restoration of the blood volume to a normal value. As shown by Phemister (1928), Parsons and Phemister (1930), Blalock (1930) and others, the chief initiating factor in most cases of shock is a local loss of fluid from the blood stream. This local loss occurs at the site

TABLE 3

Oxygen Percentages Obtained by Different Methods (Note that all are multiples of 15).	
Normal alveolar oxygen	15
Nasal catheters	30
Tent (usual)	45
Tent (extreme)	60
B. L. B. Mask	90

of the trauma — whether that trauma be mechanical, thermal, or chemical. The type of fluid lost approaches plasma or whole blood in consistency. The loss of such fluid is of far more consequence than that of mere water. The restoration of blood volume is of extreme urgency and is the backbone of all shock treatment. This aspect of the subject will now be considered more in detail under the head of blood and plasma substitutes.

Blood and Plasma Substitutes. — The treatment of shock with such substances involves three problems:

A. The avenue of administration.
B. The amount of fluid to be given.
C. The type of fluid.

These will now be considered in order:

A. *The avenue of administration*

Blood or plasma substitutes may be given in a variety of ways.

(1) *Oral.* This method has the disadvantage of slowness and uncertainty. In the sickest patients it is least satisfactory because of vomiting, gastric retention, and decreased absorption.

(2) *Subcutaneous.* This route is satisfactory

for crystalloids, but not for the more important colloids.

(3) *Intramuscular.* The intramuscular injection of fluids has been used by Billimoria and Dunlop (1940) at the British Postgraduate Medical School, but has not been widely adopted in this country.

(4) *Proctoclysis.* This method is even slower than the oral route, and as shown by Perusse (1932) is unsatisfactory for anything except water, even crystalloids being absorbed in only small amounts.

(5) *Intra-arterial.* Such injections have been used by Davis (1937), Kendrick and Wakim (1939), and Kendrick (1939) for experimental purposes, but so far have had little clinical application.

(6) *Intraosseus.* This method was introduced by Josefson (1934) and has been modernized by Tocantins and O'Neill (1940, 1941), and Henning (1940). The fluid is introduced through a special needle and is usually put into the sternum. This method is especially applicable in children and in cases where intravenous injections are difficult. Tocantins and O'Neill (1941) reported on the results of 52 infusions of from 50 to 2000 cc. to 40 patients without reaction. They concluded: "Either the manubrium or the body of the sternum is the site of election for this procedure. The intramedullary route is indicated whenever a rapid absorption of unchanged substances is desired and the intravenous route is not available."

(7) *Intravenous.* This type of injection is the most widely useful. In difficult cases the saphenous vein at the fossa ovalis (open exposure) or the femoral vein (blind puncture) should be utilized more often.

B. *The amount of fluid to be given.*

This should depend largely on clinical judgement. It should be pointed out that it is no more logical to always give a shocked patient a pint of plasma than to always give a diabetic patient 10 units of insulin. The size of the transfusion should be chosen to fit the patient rather than the donor, several of the latter being used if necessary. An estimation of the amount of blood which has been lost should be made in every case, remembering that this is more apt to be under-than overestimated. A useful rule for calculating the plasma dosage in burns is that of Harkins (1941). This is *to give* 100 *cc. of plasma for every point the hematocrit is above the normal of* 45. This method applies to adults and involves the assumption that the patient's pre-burn hematocrit was normal. For children the amount of plasma is calculated proportionately according to body weight, with the average adult weight set as 70 kilograms. If the plasma protein level is below normal, this method gives too low a value. In such a case an additional 25 per cent of the calculated amount of plasma should be added for every gram the protein level is below 6.0 gm. It is noteworthy, however, that a hypoptroteinemia seldom occurs in an adequately treated burn case and hence this correction seldom has to be applied. Where hemoglobin determinations are used, 40 cc. of plasma should be given for every point the hemoglobin exceeds 100.

C. *The type of fluid.*

It is concerning this aspect of the subject that there is most debate at the present time. This decision is influenced by the needs of the individual patient and the availability of the most suitable fluid. In shock due to hemorrhage, whole blood has been lost and for the most exact replacement, whole blood should be given. In shock due to burns, practically pure plasma has been lost and plasma is the most ideal substitute. In shock due to mechanical trauma and various other agencies, various proportions of

TABLE 4

Blood and Plasma Substitutes Used in the Replacement Therapy of Shock.

1. Glucose solution.
2. Saline crystaloids (normal salt solution, Ringer's solution, Locke's solution, etc.).
3. Ascitic fluid.
4. Gelatin solution.
5. Isinglass solution.
6. Gum acacia.
7. Pectin and other macromolecular blood substitutes.
8. Plasma.
   - (a) Blood bank plasma
   - (b) Dried plasma reconstituted in normal concentration.
   - (c) Dried plasma reconstituted in concentrated form
   - (d) Heterologous (bovine) plasma
   - (e) Calcificated plasma
9. Serum
10. Whole blood.
    - (a) Direct transfusion
    - (b) Citrated fresh blood
    - (c) Citrated preserved blood
    - (d) Placental blood
    - (e) Cadaver blood
11. Red cell suspension.
12. Hemoglobin — Ringer solution.
13. Bovine albumin solution.
14. Amino acids.

whole blood and plasma are lost. However, when the choice of agents is limited, plasma may be of great value in hemorrhage and whole blood in burns. Certain other factors such as preservability, transportability, cost, and antigenicity enter into the choice of an ideal blood substitute. In general, the surgeon has a wide selection of such agents as listed in Table 4. This synopsis includes, for completeness, blood substitutes that are still in the experimental stage as well as those with definite and proven clinical value. The subject of blood substitutes has been reviewed by Amberson (1937), Harkins (1941, 1942), Harkins and McClure (1941), Hartman, Schelling, Harkins, Brush and Warren (1942), and Mudd (1942).

(1) *Glucose solution.* This substance shares with the saline crystalloids the objection that, lacking any colloidal osmotic pressure, the solution readily escapes from the blood stream. Furthermore, the more advanced the shock and the more imperative the need for treatment, the less apt are crystalloid solutions to be of benefit. Harkins and McClure (1941) recently reviewed the evidence illustrating the evanescent effect of crystalloids in the presence of shock.

(2) *Saline Crystalloids.* These have the same advantages and disadvantages as does glucose solution.

(3) *Ascitic Fluid.* This substance was used experimentally by Davis and White (1938), Choisser and Ramsey (1938, 1939), and by Mulder, Davis and Streeter (1939). Clinically it has been used by Meerson and Cukanowa (1936) (in 60 cases), by Holubec (1940), and by Maes and Davis (1941) (in 22 cases). This fluid can be dried and reconstituted in a manner similar to plasma or serum. A serious drawback to its wide adoption is the limited amount of such fluid available.

(4) *Gelatin solution.* Following its introduction as a blood substitute in 1917 by Hogan, gelatin solution was not widely adopted. Recently, however, it has aroused renewed interest. At present, the use of gelatin as a blood substitute is largely in the experimental stage.

(5) *Isinglass solution.* Isinglass is a type of fish gelatin especially prepared from fish bladders. Its injection in cases of experimental shock has been reported by Taylor and Waters (1941) but its status is as yet uncertain. Recently, Taylor and Moorhouse (1942) reported on the clinical use of isinglass in patients.

(6) *Gum acacia.* The use of acacia was advocated during World War I by Bayliss (1916, 1917) and Hurwitz (1917). It has been widely used since. Recent reports of an unfavorable nature include those of Hanzlik and Karsner (1922); Andersch and Gibson (1934); Dick, Warweg, and Andersch (1935); Keith, Power, and Wakefield (1935); Christie, Phatak, and Olney (1935); Studdiford (1937); Hall (1938); Kendrick, Keeton, and Foley (1938); Yuile and Knutti (1939); Jackson and Frayser (1939) and others. A perusal of these reports indicates that the chief objection to gum acacia is its tendency to form more or less permanent deposits in the liver.

(7) *Pectin and other macromolecular blood substitutes.* The experimental and clinical use of pectin has been reported by Hartman and his associates (1941, 1942). Polyvinyl alcohol, methyl cellulose, gum arabic and gelatin were discussed by Hueper (1942).

(8) *Plasma.* Buttle, Kekwick, and Schweitzer (1940), in speaking of a 50 per cent hemorrhage, stated: "In hemorrhage of this degree replacement of red cells plays no vital part in treatment. . . replacement with plasma gives as satisfactory a result as replacement with whole blood." Taylor and Waters (1941) similarly stated: "It has been amply proved that the prime requirement in hemorrhage is to fill the vessels and so maintain the blood pressure. Compared with the reduction in the volume of the blood the loss of red cells is of very secondary importance as an immediate threat to life." Realization of the value of plasma is not new as evidenced by the following letter appearing in the March 9, 1918, number of the British Medical Journal:

TRANSFUSION OF PLASMA

Sir, — I have been reading with interest recent articles in the Journal on blood transfusion in casualty clearing stations. Apparently one of the chief troubles is the question whether or not the recipient's plasma will haemolyze the corpuscles of the donor.

"Surely this difficulty might be avoided by not transfusing the corpuscles at all, but only citrated plasma, which would be easy to keep and easy to give. There is abundant clinical and experimental evidence that it is not the corpuscles that are wanted, but the ideal fluid for keeping the blood pressure at its proper level, and the apparent advantage of blood is, no

doubt, due to its permanent value in this respect and to its food value. A man apparently dying from haemorrhage is not dying from lack of haemoglobin, else severe cases of anaemia would die long before they do, but from draining away of fluid, resulting in devitalization and low blood pressure.

"May I at least recommend a trial of this method, controlled, let us say, by an equal number of whole blood transfusions and an equal number of gum acacia (not less than 6 per cent) cases? — I am, etc.,

"Sevenoaks, March 3

Gordon P. Ward,
Captain R. A. M. C. (S. R.)."

Plasma is especially applicable in the treatment of burns. For civilian use ordinary blood bank plasma (i.e., the plasma decanted from the cells in blood which has stood for seven to ten days and would otherwise be discarded) is especially useful. Dried plasma, whether reconstituted to its original normal concentration or to a concentrated form, has the additional advantages of ready preservability and transportability. The two chief methods of manufacture of dried plasma in use at present are evacuation from the frozen state (lyophile and similar processes) and pervaporation (method of Hartman, 1940). Calcificated plasma as used by Clegg and Dible (1940) has little practical value. On the other hand, bovine plasma as used by Cohn (1940) and Wangensteen and his associates (1940, 1941) looks quite promising. The dosage of plasma is also of importance and large amounts may be necessary. The calculation of plasma dosage is especially simple in cases of thermal injury where the extent of hemoconcentration is roughly proportional to the plasma deficiency. The rule of Harkins (1941) is to give 100 cc. of plasma for every point the hematocrit exceeds the normal of 45.

(9) *Serum.* Serum has the same range of usefulness as plasma and is used to a large extent in place of the latter in Great Britain. Serum is said to have the advantage over plasma of lack of tendency towards development of fibrinous particles and the disadvantage of more frequent vasopressor reactions.

(10) Whole blood. — The reviews of Vary (1940), Harkins (1941) and Mudd (1942) should be consulted. The types of blood and blood transfusion can be classified as follows:

(a) *Direct transfusion.* The advantages of such a method over use of citrated blood are largely theoretical, especially in time of war.

(b) *Citrated fresh blood.* Introduction of the use of citrated blood by Lewisohn (1915) was an important advance in transfusion therapy. At present such blood is used most widely as

(c) *Citrated preserved blood.* In this form it is especially valuable in wartime.

(d) *Placental blood.* The disadvantages of small amounts and frequent contamination render this type of blood impractical.

(e) *Cadaver blood.* This method was introduced in Russia by Youdine (1936) and is widely used in that country.

The amount of blood that should be given is of prime importance. As stated above, it is no more logical to always give a shocked patient a pint of blood than to always give a diabetic patient ten units of insulin. Clinical judgment and an estimation of the amount of blood and other fluid which has been lost are of especial aid in estimating the amount of blood to be given. Usually the mistake is made in shock of transfusing "too little and too late."

(11) *Red cell suspension.* As used by Rossius (1925), Buttle and associates (1940), and Mollison (1941) this blood substitute has its usefulness essentially restricted to cases of anemia.

(12) *Hemoglobin-Ringer solution.* While this solution has been used extensively in experimental work (Amberson, 1937), and Amberson, Jacobs, Hisey, and Monke, 1942), the only clinical report of its adoption is that of O'Shaughnessy, Mansell, and Slome (1939). The chief disadvantage is that the hemoglobin is apt to form deposits in the renal tribules.

(13) *Bovine albumin solution.* — The use of crystalline albumin dissolved in water as advocated by Cohn (1942) may prove of importance in the future.

(14) *Amino Acids.* — These may be prepared by either the acid or enzymatic digestion of casein. Casein has the advantage of containing all of the 11 essential amino acids. Elman and Weiner (1939); Farr, Emerson, and Futcher (1940), and Elman (1940), the latter in two papers, discussed this mode of therapy. Madden, Zeldis, Hengerer, Miller, and Whipple (1941) and later Madden (1941) studied the utilization of a casein digestate injected by vein in forming new plasma proteins. Many of these observations, however, are not pertinent to the question of shock as they involve the use of

small amounts of digestate in attempting to maintain a protein balance. At present, therefore, these substances would seem better fitted for intravenous feeding and promotion of blood restoration, than as a blood substitute. Large amounts of amino acids have been given in a short period of time without reaction.

CONCLUSIONS

Shock may be defined as *a progressive vasoconstrictive oligemic anoxia.*

Prompt treatment of the oligemia before anoxic damage has occurred is essential. Shock should be prevented or remedied before the irreversible stage has developed. Therapy includes symptomatic measures, adrenal cortical extract, oxygen, and, most important, blood and plasma substitutes.

These latter are best given intravenously in adequate doses which are chosen to fit the case under treatment. For the treatment of burn shock a recommended dosage for an average sized adult patient is 100 cc. of plasma for each point the hematocrit exceeds the normal of 45. In cases of traumatic shock treatment should depend on a clinical estimation of the amount of blood or other fluid lost coupled with an appraisal of the patient's condition.

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RECOGNITION AND TREATMENT OF SURGICAL SHOCK

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Clinical traumatic shock is defined as a circulatory deficiency, neither cardiac nor vasomotor in origin, and characterized by (1) decrease in blood volume; (2) reduced cardiac output, and (3) hemoconcentration.

For many years shock has attracted the attention of the medical profession, especially the surgeons. Its pathogenesis has not been clearly understood and has been the subject of much controversy among authorities in this field. Many theories have been propounded to explain its cause. Crile's pioneer work in the early part of this century deserves much credit for our present knowledge. While his theory of splanchnic congestion has not been entirely accepted, it has stimulated others to do research work in this field. Other theories which have been proposed and discarded are the acapniac theory of Yardell Henderson, the fat embolism theory of Porter, and the adrenal exhaustion theory. The theories receiving consideration at present are: (1) the nervous theory, which has not been substantiated; (2) the toxic theory supported by Cannon, Bayliss, Moon and others; (3) capillary paralysis and permeability causing local loss of fluid into the tissues, supported by Blalock, Phemister and others.

There are two types of shock: primary and secondary. Primary shock is a condition which develops immediately after injury; it has a nervous basis, and pain and psychic factors play a role through their effect upon the vascular system.

Secondary, surgical, wound or traumatic shock is that state of general collapse which follows two, three or four hours after severe tissue injury. It is this type of shock which is of

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Presented at the Post Graduate Conference, Mt. Vernon, Ill., October 8, 1942.

particular interest to the surgeon. Surgical shock may be produced by many conditions, but extremely painful trauma, severe crushing injuries and hemorrhage are the most frequent causes.

It is well to point out here that hemorrhage may be either "red" or "white". Loss of whole blood either outside the body or within the body cavities is the hemorrhage with which we are familiar and is called "red" hemorrhage. "White" hemorrhage is seen in patients suffering from shock produced by severe burns; it is a leakage of plasma through the capillary bed into the soft tissue and in such conditions it is frequently said that "the patient bled to death into his own tissues." According to Moon,[1] this increased or abnormal permeability of the capillary bed is caused by any type of injury to the endothelial lining of the capillaries thereby causing increased permeability to plasma colloids. Leakage of plasma from the blood produces hemoconcentration, decreased blood volume, reduced cardiac output, and finally tissue anoxia which, if uncompensated, will give rise to symptoms of shock eventually leading to death, unless these processes are reversed by appropriate methods of treatment.

In surgical shock the following physiological pathology is noted:

1. Decrease in blood volume (oligemia).
2. Reduced cardiac output.
3. Diminished blood flow.
4. Hemoconcentration.
5. Capillary congestion.
6. Increased blood non-protein nitrogen.
7. Reduction of the carbon dioxide combining power of the blood (acidosis).
8. The red blood cell count of the capillary blood may show no changes but often is increased. If a severe burn has been suffered, the red blood cells and the hemoglobin are markedly increased; if a hemorrhage has occurred, these are decreased.
9. Vasoconstriction.
10. Decrease in venous pressure.
11. Low blood pressure.
12. Decreased muscular tone.
13. Decreased metabolism.
14. Acapnia.
15. Diminished urinary secretion.
16. Tissue anoxia.

A patient suffering from surgical shock lies perfectly still and pays no attention to what is going on around him. Although plunged into mental stupor, he is quite conscious and answers questions slowly, painfully but correctly. There is present a depression of four of the vital processes: (1) the temperature is subnormal; (2) the respirations are sighing and shallow; (3) the pulse is extremely feeble, running and irregular, and (4) the blood pressure is low, in severe cases going down to 60 mm. of mercury. The patient shows an ashen pallor and has cold, clammy, sweating skin. The finger tips and lobes of the ears are cyanotic, probably due to peripheral stasis of blood in the dilated paralyzed capillaries. The eyes are heavy, lusterless and deeply sunken in their sockets. The cheeks are hollow and the brow furrowed with anxiety.

There has been considerable debate on the relationship of shock to the effects of hemorrhage, and the failure to distinguish between the two has been the source of much confusion. Both conditions are produced by the loss of large quantities of fluid, either whole blood or blood plasma. Several of the clinical signs are identical in both conditions, such as lowered basal metabolism, increased respiratory rate, thirst, and declining blood pressure. Moon[1] says that certain accompanying features are opposite in character:-

1. "In shock the capillary endothelium becomes permeable, the tissue fluid and flow of lymph are increased. Fluid balance is disturbed, ability to absorb fluid from the tissues is impaired. Vomiting and diarrhea are frequent and infusions of fluids or transfusions of blood often are ineffective in treatment. None of these features results from simple hemorrhage."

2. "In shock the blood becomes concentrated, the non-protein nitrogen, potassium, calcium and magnesium contents are markedly increased, the sodium, chlorides and carbonates are decreased, the coagulation time is lengthened and the sedimentation rate is retarded. None of these changes is produced by hemorrhage."

3. "During shock the urine is decreased in volume and contains albumin, erythrocytes, casts, bile and other abnormal substances. No characteristic urologic changes result from hemorrhages."

4. "The necropsy findings after death from shock include edema, serous effusions, capillovenous congestion, stasis and petechiae in the

viscera, atony of the gastro-intestinal tract, focal necrosis and acute degeneration of parenchymatous organs. None of these morphologic features results from the effects of hemorrhages."

Other features differentiating shock from the effects of hemorrhage are:

1. In hemorrhage there is a loss of whole blood and soon thereafter there is a decrease in the erythrocyte count and hemoglobin. The cell volume as determined by the hematocrit tube is decreased. The leukocyte count is increased. In traumatic shock there is mainly a loss of blood plasma into the injured part through the increased permeability of the capillary bed which gives an increase in the erythrocyte count and hemoglobin. The cell volume is normal or increased. In severe burns the cell volume is markedly increased.

2. In hemorrhage the sensorium is not as depressed as in traumatic shock; instead the patient may show a marked degree of restlessness and frequently an apprehensive expression is noted.

3. In hemorrhage there is an extreme pallor or whiteness to the skin, mucous membranes and lips, and not the ashen color as seen in shock.

4. In hemorrhage the respirations are apt to be deep and rapid (air hunger), unlike the shallow respirations as seen in traumatic shock. Thirst also is a manifestation of severe hemorrhage.

The above differentiation may appear superfluous in a discussion of such an important subject, but it is of great value in considering treatment. A patient suffering from shock due to burns or trauma where there is an increased erythrocyte count certainly does not need whole blood but needs plasma or serum. However, a patient suffering from shock due to the loss of blood needs whole blood transfusions rather than plasma or serum. However, plasma should be given until whole blood is available.

With the above in mind and realizing the importance of knowing whether shock was due to "red" or "white" hemorrhage, and further realizing that the type of fluid therapy should be different in the two types, we began some clinical investigations in this field. Cell volume determinations with the hematocrit tubes, specific gravity of plasma and serum, and plasma and serum protein determinations by means of the Kagan falling drop proteinometer have been determined in over 50 clinical cases which had been or were to be subjected to major operative procedures.

If the cell volume was found to be considerably under the normal of 46 as determined by Scudder[2] and as is found in cases of secondary anemia from hemorrhage, citrated whole blood transfusions were given. If, however, the cell volume was above the normal of 45, as occurs in severe burns, acute pancreatitis, ruptured peptic ulcer and traumatic shock, and when the plasma protein was below the normal of 7 per cent, plasma transfusions were advised. Futhermore, fluid balance can be more accurately controlled by the above determinations and used as a guide to fluid therapy.

The aims of treatment in surgical shock are to reverse or rectify the abnormal processes mentioned above. This includes replacement of fluid lost and prevention of further fluid loss. Harkins[3] has clearly outlined the empiric and specific treatment of shock. Modified it is as follows:

I. EMPIRIC TREATMENT
- a. Rest
- b. Warmth
- c. Elevation of the feet
- d. Tight bandaging of the extremities
- e. Administration of sedatives
- f. Stimulants
- g. Vasospastics

II. SPECIFIC TREATMENT

A. Blood substitutes:
1. Plasma } 1. Normal, concentrataed or di-
2. Serum } luted. 2. Dried. 3. Calcified.
3. Whole blood
4. Crystalloids
   a. Sodium chloride
   b. Dextrose d. Hartmann's solution
   c. Ringer's solution e. Locke's solution
5. Water
6. Acacia
7. Red cells
8. Hemoglobin (pure crystalline; Ringer's solution)
9. Ascitic fluid; pleural fluid
10. Albumin, human and bovine
11. Whole bovine plasma and serum
12. Gelatin (animal protein from fish bladder)
13. Pectin from citrus fruits
14. Amino acids

B. Oxygen therapy

C. Adrenal cortical extract

Empiric Treatment. — *Rest,* as in all pathologic conditions, is essential. Sedation in the form of narcotics or the barbiturates may be necessary. In shock due to head injuries the barbiturates are preferable to narcotics so as not to depress the vital centers too markedly. *Warmth* is necessary but should not be extreme. Blalock[4] in a recent publication demonstrates that a marked rise in the temperature of the tissues is accompanied by vasodilatation and an increase in capillary permeability. He states, "It would appear that one is warranted in concluding that extreme degrees of heat should not be used even locally in the treatment of shock, particularly if means are not immediately available for increasing the blood volume by the introduction of blood or a suitable substitute." Patients exposed to cold and dampness should be placed in a warm bed and covered with blankets only and should not be covered with hot water bottles. Blalock's experimental animals showed that the average survival period in the group in which cold was applied was twice that of the group in which an elevation of body temperatures was caused by the local application of heat. *Elevation of the feet* or lowering of the head allows more blood to reach the respiratory center. *Tight bandaging of the extremities* is an old time-honored remedy which probably decreases the vascular bed and increases the blood volume to the vital centers. This may also prevent "white" hemorrhage or plasma loss through the capillaries in the extremities. Koch and Allen[5] use pressure bandages in severe burn cases in the belief that this pressure will prevent further fluid loss into the tissues. *Stimulants* should not be used too intensively, especially in shock due to hemorrhage, since their administration might increase the hemorrhage. Warm coffee or whisky are permissible if the patient is conscious. *Vasopastics* are merely symptomatic therapeutic agents and if used too freely may actually be harmful. Freeman[6] and others have shown that epinephrine alone will cause shock.

Specific Treatment. — Of all the blood substitutes, *plasma transfusions* at the present time seem to be the one of choice. It has been stated by Strumia[7] that "there is no emergency condition except carbon monoxide poisoning in which plasma is not as useful as whole blood." *Serum transfusions,* according to Blalock[8], are not preferable to plasma. Plasma and serum have approximately the same amount of protein. These two substances may be prepared for transfusion in several ways, but they are dispensed usually as liquid or frozen in civilian practice and as dried or concentrated in military practice. They may be given anywhere without typing, even at the front line first aid station where they are most needed. *Citrated whole blood* is, in our opinion, advisable in shock due to "red" hemorrhage where there is profound anemia. In such a case blood cells and plasma are both lost; therefore, whole blood would replace both losses. Plasma or serum should be given, however, until the whole blood is available. *Water* is not a complete restorative of blood volume but prevents dehydration. *Crystalloids,* as shown by Beard and Blalock[9], may actually do more harm than good if not supplanted by blood, plasma or serum, since they diffuse out through the permeable capillary bed unless there is an adequate amount of plasma protein present in the blood stream. In hemorrhage, unless bleeding has been arrested and shock is mild, they may increase blood loss and wash proteins into the tissues as well. *Acacia* was used in World War I but has since been discarded. Ravitch and Blalock[10] have stated that it may actually be harmful by interfering with the regeneration of plasma proteins in the liver since it is stored in the liver for long periods. It has also been said to combat the treatment of shock by interfering with oxygen absorption by the red blood cells.

"*Hemoglobin* has been given to human beings intravenously in large doses without ill effect. Pure crystalline human hemoglobin can be prepared and maintained in stable solution or lyophilized if desired. Because of the efficiency of extracorpuscular hemoglobin in carrying oxygen, cats can be kept alive 24 to 36 hours on feline hemoglobin after all of their blood cells have been removed." (Quoted from Ravitch and Blalock.)

Ascitic and pleural fluids have been injected safely intravenously. Ascitic fluid is similar to plasma but contains roughly half as much pro-

teins and is, therefore, half as effective. It is not readily available and our one experience with its use resulted in a rather severe reaction.

Albumin may be prepared from human plasma and probably will become a blood substitute of which we will hear more in the future. Hypertonic solutions of albumin obtained from alcohol fractionations of human plasma have been employed in a small number of cases and seem extremely effective in the treatment of shock. Bovine albumin prepared by the same method solved the problem of quantity and cost, but thus far the bovine albumin has not been free from a small fraction of globulin, which apparently is the cause of sensitivity reactions in human beings. If the globulin fraction can be removed and if bovine albumin can be secured in sufficiently pure form, a very nearly ideal plasma substitute for military and civilian use will have been found.

The use of *whole bovine serum* and plasma in 120 patients has been reported by Kremen et al.[11] They conclude that the incidence of reactions was sufficient to contra-indicate any clinical use of this material at the present time.

Gelatin, an animal protein which is derived from fish bladders, has been injected into dogs in a suitable solution and found to be effective in the treatment of shock, and causes no reactions. Its use in human beings has not been reported so far as I know.

Common citrus fruit pectin, which is commercially supplied for the making of jellies, has been prepared by Hartmann[12] and his co-workers for use as a plasma substitute. Only 8 clinical instances of its use are reported and in at least one a chill occurred.

Amino acids injected intravenously have proven valuable by supplying the body with building stones for the formation of tissue and blood proteins when adequate protein cannot be taken by mouth.

Of the other specific treatments of shock, *oxygen therapy* is of prime importance. One of the reasons for the irreversibility of the shock syndrome is anoxic damage to the tissues. Early prevention and continued treatment with high oxygen percentages are essential. Schnedorf and Orr[13] have recently shown experimentally the value of oxygen inhalation as an adjunct in the treatment of shock due to hemorrhage. *Adrenal cortical extract* is still in the experimental stage and authorities differ as to its efficiency. Cole[14] and his associates have recently shown experimentally that this preparation is of definite value prophylactically.

Whole blood, plasma or serum can usually be given by intravenous needle, but in severe shock there is a conpensatory vasoconstriction so that many times the veins are difficult or impossible to enter. In such cases canalization of the veins may be necessary, but even this is sometimes not possible due to thrombosis from previous needling. When this occurs, *sternal transfusions* in patients over three years of age, as recently reported by Tocantins[15], may be used as a last resort. Our experience with sternal transfusions has been limited and not entirely satisfactory, probably due to our inexperience in its use.

SUMMARY AND CONCLUSIONS

1. A resumé has been given of the current treatment of shock, both empiric and specific.

2. The common empiric treatments have been discussed.

3. Plasma transfusions in liberal amounts rank first in treatment, followed by whole blood transfusions. Crystalloids will not supplant plasma or whole blood but are valuable adjuncts.

4. Oxygen inhalations and adrenal cortical extracts are valuable adjuncts both as a prophylaxis and as a treatment of shock.

5. The value of the hematocrit, specific gravity of plasma or serum, and plasma protein determinations has been discussed.

6. The use of sternal transfusions has been mentioned when other methods of intravenous therapy have failed.

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TREATMENT OF MENTAL DISORDERS BY ELECTRICALLY INDUCED CONVULSIONS: A Preliminary Report

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In this discussion of the subject, no effort will be made to go into the history of convulsive shock therapy or the extensive bibliography on the subject.

The Method of Therapy — The usual electric convulsive therapy apparatus was used, the patient being put in a dry pack just prior to treatment, with a rolled up pillow placed under the back at about the level of the lower thoracic vertebrae. Straps were tied across the shoulders and above the knees. The treatments were given twice a week. The total number of treatments given was dependent on the degree of mental improvement. Ten treatments was considered to be a course, if no improvement occurred with this amount of therapy, treatment was discontinued, but if the patient showed some improvement, then more treatment was given in the amount thought to be necessary. The lowest number of treatments given to a patient was five; the highest continuous number was eighteen; and the highest intermittent number was thirty. The lowest amount of electrical current necessary to produce a convulsion was 350 milli-amperes, the highest was 700 milli-amperes. The shortest time required was 0.2 seconds, the longest was 1.0 second. The voltage varied between 80 and 150 volts.

The Material Used — There were one hundred patients, 43 male and 57 female. The patients were not selected according to the nature or duration of the psychosis, except that organic psychosis were excluded. The types of cases treated were as follows:

Involution Melancholia	10
Manic Depressive, Depressive Type	14
Manic Depressive, Manic Type	16
Manic Depressive, Mixed Type	4
Dementia Precox, Simple Type	2
Dementia Precox, Catatonic Type	8
Dementia Precox, Hebephrenic Type	31
Dementia Precox, Paranoid Type	6
Psychoneurosis, Anxiety Type	3
Psychoneurosis, Hysteria Type	1
Psychoneurosis, Neurasthenic Type	2
Psychoneurosis, Psychasthenic Type	2
Psychoneurosis, Reaction Depression	1

The ages of the patients ranged from eighteen years to sixty seven years. Forty nine patients had previous admissions or had been given metrazol, insulin or both. The duration of the psychoses was variable and ranged as follows:

Under six months	10
Six months to one year	19
Over one year	71

Most of the patients were given a reasonable chance to make spontaneous improvement. Out of the fifty one first admissions, forty two were put on treatment two months after admission, the other nine were put on treatment before two months had elapsed, because it was considered to be for the best interests of the patients.

Physical Condition — Every patient was given a thorough physical examination, also an electrocardiograph of the heart and roentgenograms of the chest and the region of the cervical and thoracic vertebrae was done. Seventy nine patients were in good physical condition; fifteen had some form of myocardial involvement or enlargement of the heart; five had suspicious

Presented before the Physicians Association, Department of Public Welfare, State of Illinois, One Hundred-Second Annual Meeting, Illinois State Medical Society, Springfield, May 19, 1942.

chest findings; and one was in very poor physical condition, due to malnutrition.

Complications — The usual number of mandible dislocations occurred, however, these were easily reduced after the convulsions, with no bad after-effects. Two patients developed subconjunctival hemorrhage early during treatment. Examination of the eye grounds showed no evidence of hemorrhage in the retina.

Results — Results were based on whether the duration of the psychosis was one year or less, and these cases were designated as recent cases, if the duration was over one year, they were considered to be chronic cases. Degree of improvement was shown as follows:

1. Recovered, which meant that the patient had completely lost all psychotic manifestations, was able to go home and carry on the usual duties where they left off before their mental disorder manifested itself.
2. Improved, meaning that the patients have not fully recovered, but are able to adjust outside the institution with good supervision.
3. Institutionally improved, meaning that the patients are more cooperative, easier to handle, and will do a certain amount of work in the institution.
4. Unchanged, meaning no improvement in the patients' mental condition, or that treatment has made no change in the patient.

There were 29 recent cases, and 71 chronic cases. Recovery occurred in 12 recent and 6 chronic cases; improvement in 12 recent and 26 chronic cases; institutional improvement in 4 recent and 11 chronic cases; and no change in one recent and 28 chronic cases. The following table evaluates the results:

Recovered — 18 patients 18%
Improved — 38 patients 38%
Institutionally improved — 15 patients 15%
Unchanged — 29 patients 29%

The following table evaluates the results of the treatment after a lapse of 3 to 12 months following the end of the course of therapy:

Recovered — 17 patients 17%
(1 relapse)
Improved — 31 patients 31%
(7 relapses)
Institutionally improved — 20 patients 20%
Unchanged — 32 patients 32%

All the results my be avaluated from the following table:

	No. of Cases	Recovered	Improved	Instit. Improved	Unchanged
Involutionals					
Recent	7	4	3	0	0
Chronic	3	1	1	1	0
Depressed Manics					
Recent	8	2	6	0	0
Chronic	6	1	3	0	2
Manic Manics					
Recent	4	2	1	1	0
Chronic	12	3	7	1	1
Mixed Manics					
Recent	1	1	0	0	0
Chronic	3	0	1	1	1
Dem. Precox, Simple					
Recent	0	0	0	0	0
Chronic	2	0	1	0	1
Dem. Precox, Cat.					
Recent	5	3	1	1	0
Chronic	3	0	1	0	2
Dem. Precox, Heb.					
Recent	4	0	1	2	1
Chronic	27	0	7	6	14
Dem. Precox, Par.					
Recent	0	0	0	0	0
Chronic	6	0	0	0	6
Psychoneurotics					
Recent	0	0	0	0	0
Chronic	9	1	5	2	1

CONCLUSION

This form of therapy is of great value in the cases of involutional melancholia; almost as good in the manic depressive psychoses of the depressive type; fairly satisfactory in the manic type of the manic depressive psychoses. In regard to the manic depressive psychosis of the mixed type, the cases treated did not do very well, since two out of four cases that went home relapsed after a short time, and the other two cases made no improvement; however, since there was only a small number of cases, this is no criterion. The treatment may be helpful in the early schizophrenics, although the author has not seen any cases whose psychosis was less than six months old, and the cases of longer than six months duration were not helped to any great extent, although some of them did go home on parole. It was the author's observation that schizophrenics of the catatonic type showed very good mental improvement if the duration of the psychosis was less than six months, in all other cases, there is no change. Psychoneurotics are not benefited by this treatment, except if it is made part of a course of psychotherapy. Those patients who had been given other forms of shock therapy and showed temporary improvement as a result, also showed

only temporary improvement with electro-shock therapy. The question as to whether the treatment is worth while, can only be answered in one way. Although only a small number of cases are improved appreciably, yet this is better than that none should be helped.

DISCUSSION

1. Finkelman, M.D (Chicago): Mr. Chairman, Honored Guests, Ladies and Gentlemen: I had great pleasure in listening to this interesting contribution to the literature of electric shock treatment.

One should be very cautious in the use of this method since we do not yet know all the side actions.

In our laboratory, under the guidance of Dr. L. J. Pollock, Dr. Arieff of Northwestern University is studying the effects of electric convulsions on rabbits. In a series of twenty rabbits, one to ten convulsive seizures were induced by the electric current and the rabbits were killed two weeks after the last convulsion. Seven rabbits died before the required number of convulsions. One animal sustained a quadriplegia due to multiple hemorrhages in the spinal cord and brain.

In the series there were four cortical hemorrhages, one pineal and three subarachnoid. There were nine instances of ischemic ganglion cell changes in the cerebellum, eight in the mid-brain, six in the cortex and three in the brain stem. One animal showed normal findings.

I do not imply that the same deleterious effects will be observed in human material or that you can carry over these findings to patients, but the findings are significant and we should weigh carefully each case before inducing convulsive seizures for therapeutic purposes.

ORCHIDECTOMY IN PROSTATIC CANCER

A Case Report

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The pessimism of urologists toward prostatic cancer is due to several factors: (1) the tendency of cancer here to be present without producing early symptoms (2) the frequency of widely disseminated bony metastases. The work of Gutman and Sproul suggested some of the possible extraneous factors which may influence the spread of this cancer to certain parts of the skeleton. They found that not only was the prostate very rich in an enzyme called acid phosphatase, but also that advanced cases of prostatic cancer demonstrated an appreciable rise in the acid phosphatase content of the metastases. Moreover, the blood sera of patients with carcinoma of the prostate showed a marked elevation of serum phosphatase *only* if skeletal metastases were present.

In April 1941, Huggins reported his interesting results following castration of 21 patients with prostatic malignancy. In this group during a period of 20 months there were four fatalities and two patients failed to exhibit any improvement. The remainder (71%) showed definite signs of regression of the malignant process.

The rationale of bilateral orchidectomy in this condition depends on the fact that prostatic tissue is responsive to the influence of testicular extract. There is a stimulation or inhibition of adult prostatic epithelial growth when the androgens are administered or withheld. This change in prostatic epithelium is associated with corresponding variations in the serum acid phosphatase concentration. Whether this is an actual cause and effect phenomenon is not known at the present time. Recent reports seem to justify the tentative conclusion that decreasing the androgen content of the body may impede the cellular metabolism of prostatic tissue by lowering the acid phosphatase level of the blood serum, and of the prostatic tissue itself. Since the phosphatase content of the bony metastases is very high, a marked reduction in the enzyme here may favor regression of these skeletal foci as demonstrated by periodic x-ray examination. Prior to the introduction of orchidectomy a minority of surgeons performed radical perineal prostatectomy on patients who had definite evidence of a malignant process limited to the gland and capsule but without skeletal metastases. Here, prostatectomy was done either (1) to primarially relieve symptoms of bladder-neck obstruction and secondarily to attempt removal of the cancerous tissue or (2) to effect a cure by excision of the malignant gland, prostatic capsule and bladder-neck even though no urinary tract obstruction existed. Clinical results in the latter group have not been good.

We have been impressed by the occurrence of prostatic carcinoma accompanied by diffuse skeletal metastases but without bladder-neck obstruction and the absence of residual urine. These patients had small prostates of stony hardness and x-ray showed characteristic dense,

compact metastases to the lumbar spine, ribs, upper femora and lung fields. After careful analysis and evaluation of the therapeutic measures available, I feel convinced for the present that in this latter group bilateral orchidectomy and the administration of stilbestrol, to further lower androgen concentration, offers results comparable to the best. The following case history is presented as an example of the results obtained.

F. S. age 66 years was first seen on 6/2/42 his chief complaint being pain in the back of both legs and a progressive loss of weight. Accompanying these symptoms was a feeling of being tired at all times, loss of appetite, morning headache and transient pains in the chest and upper arms. The patient dated the onset of his illness to Jan. 1942. He had not been able to fulfill his duties as a machine operator since April 15th because of marked fatigue. There was no history or nocturia or diurnal frequency. His usual weight was 174 lbs. Past history was irrelevant. He was admitted to St. Elizabeth's Hospital on June 12th. Physical examination revealed no significant findings except some tenderness on pressure over each humerus. The gross body-weight was 133 lbs. The prostate was small but very hard. Its firmness at once suggested the possibility of carcinoma. Laboratory examination revealed: urine: Sp. Gr. 1.022, alkaline; no albumin, sugar or bile; few phosphate crystals. Essentially normal blood count. X-ray examination of the thorax, pelvis and femora showed "generalized metastatic carcinoma to the bones probably primary in the prostate."

On June 19th under low spinal anesthesia, both testicles were removed. Postoperatively the patient was given 0:5mg. stilbestrol B.I.D. a soft diet and 100mg. thiamine HCI intravenously daily. Convalescence was smooth, and he was discharged on June 23d feeling, as he stated, "Better than I have in ten years." All the preoperative complaints had disappeared and on Nov. 15th his weight had reached 168 lbs. and he had been working for three months at his usual occupation. Following some discomfort in both breasts, the stilbestrol was reduced to 0.1mg. three times weekly with relief of this symptom.

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PROGNOSTIC FACTORS IN CASES OF PSYCHOSES FOLLOWING PREGNANCY

ETHEL A. CHAPMAN, M.D

ELGIN

The psychoses in women which begin shortly following delivery of a child are designated as post partum psychoses. Since the puerperium is normally known to last about six weeks one may assume that only those cases of mental illness with an onset within this time should be considered as puerperal psychoses.

In a recent survey Smalldon[1] reviewed the records of 220 post partum cases and verified the now generally accepted viewpoint that in the majority of instances a diagnosis of either manic-depressive psychosis or schizophrenia is suitable. The remaining cases are usually diagnosed psychoneurosis or psychosis with mental deficiency. True toxic-confusional states occur but are rather rare in state hospital patients.

Since we are not dealing with a disease entity in post partum psychosis, it is evident that the prognosis will depend chiefly on the specific diagnosis in the individual case. However, a consideration of prognostic factors is of importance for several reasons. The family physician is frequently asked by the anxious family about the probable outcome of the case, and his opinion will very often be the deciding factor whether the patient should enter a private hospital, a state institution, or whether she should be cared for in the home. The form of treatment and the problem of the care of the newborn will also depend very much on the prognosis the physcian and the psychiatrist will give in the individual cases. The question, therefore, arises as to whether or not one is able to make a correct diagnosis and prognosis at an early stage of the disease, and whether the prognostic factors are different in the cases following childbirth as compared with other cases of schizophrenic and manic-depressive psychosis. Davidson[2] thought that in every patient at the onset of a post partum psychosis a somatic element is present which renders the diagnosis quite difficult.

Studies Made At Elgin State Hospital, Chas. F. Read, Managing Officer.

Presented before the Physicians Association, Department of Public Welfare, State of Illinois, 102nd Annual Meeting, Springfield, May 19, 1942.

Fishback[3] reviewed in a statistical study, 88 post partum cases treated at the Elgin State Hospital, and compared her findings with those of other authors. She found a marked discrepancy between the various statistics in regard to incidence, diagnosis, and symptoms, and also in regard to the recovery rate which varied in various institutions between forty and eighty per cent. Fishback found that 58% recovered at the Elgin State Hospital and 11% were markedly improved. However, the recovery rate for those patients diagnosed manic-depressive psychosis was 91% in an average of 9.7 months, while the recovery rate for schizophrenics was only 17.1% in an average of 14 months. In general the Elgin figures compared rather favorably with those in the literature and this may be due to the fact that the Elgin group had a comparatively larger group of manic-depressive psychosis.

Manic-Depressive Psychosis — All nine patients diagnosed manic-depressive psychosis, manic phase, made a social recovery and were able to assume their duties at home. This finding could obviously be expected.

The onset of manic-depressive psychosis, manic type, was usually quite sudden. We did not find any prodromal symptoms in any of our cases although they were present in other forms of psychosis. This does not agree with Strecker and Ebaugh (Smalldon[1]) who thought that prodromal symptoms could be observed during the course of pregnancy in a high percentage of cases.

The diagnosis seemed to be relatively easy even in the very early stages. A clear sensorium, meddlesomeness of the patient, and the presence of grandiose ideas during the first few days of hyperactivity seem to indicate the outbreak of a manic psychosis even though the mood was not necessarily elevated at first. The grandiose ideas were often expressed by the belief that there had been a multiple birth ranging up to sextuplets. The onset of the psychosis is usually between the third and twelfth day. The pre-psychotic personality was either clearly extroverted or ambiverted with a tendency towards outgoing interests. The total duration was six months in one case and under four months in all other cases. This is a shorter duration than is usually expected in manic-depressive psychosis not connected with parturition. In spite of the fact that none of these cases received any shock therapy they all could leave the hospital and, according to our information, adjusted quite well.

The prognosis, then, is favorable in patients who, without prodromal symptoms, develop a sudden psychosis within the first few days after delivery, characterized by grandiose ideas and a clear sensorium. These patients belong in the manic-depressive group, manic phase. However, it is not uncommon for patients to have more than one attack either connected with a new pregnancy or without any obvious precipitating factor.

The prognosis in depressive cases is, according to our material, also favorable. Eight of our nine cases had a complete remission after an average duration of illness lasting from six months to one year. This is considerably longer than the duration of manic attacks. One also has to consider the fact that in several of these cases convulsive shock therapy was instituted with apparently good results. Without shock therapy the duration of a depressive attack would probably be considerably longer. It seems, therefore, that one has to expect a longer duration of psychosis in a depressive phase, and one should be careful not to predict an early recovery. However, almost invariably the patient will have a remission. The psychosis does not begin as suddenly as the manic attack, and usually starts with evidence of feelings of inadequacy and a fear of being unable to care for the child. A few days after the patient reaches home the psychosis becomes more marked and reaches its depth within a few weeks after delivery. In agreement with Strecker anl Ebaugh's (Smalldon[1]) findings prodromal symptoms could already be noted in the last stages of pregnancy. Six of our patients expressed a fear of impending disaster before delivery. The confusional factor was quite marked and hallucinatory experiences of a depressive nature especially occurred. The clinical picture is usually not as clearly defined as in the manic type, and the picture is more easily confused with schizophrenic symptoms. However, all of our patients diagnosed depression recovered except one patient who had

considerable schizophrenic coloring, especially displayed in a marked apathy.

In general it may be stated that patients who show some depressive features after delivery and in whom the psychosis deepens following return home may have to expect a long period of illness. However, the final outlook will be favorable for a complete remission. Shock therapy usually shortens the duration of illness. The patient may be expected to have other attacks of depression. One of our patients had three attacks, each connected with childbirth. Especially grave seems to be the future development of an involutional psychosis. Two of our cases developed severe long lasting involutional depressions which have not responded to shock therapy. In both cases the first attack had occurred after delivery of a child twenty years before the present illness.

Schizophrenia — In cases who develop a schizophrenic-like picture following childbirth the outlook must be generally considered as grave. These patients usually develop a psychosis after their return home. The mental disturbance starts with some irritability, feelings of antagonism towards the hospital personnel, and vague paranoid trends. The psychosis is not easily recognized in the beginning and it very often is several weeks before a psychiatrist is consulted. This insidious onset of psychotic symptoms with the development of ever increasing behavior disturbances is characteristic of the group. Acute features are frequently absent at first.

The pre-psychotic personality is not as commonly found to be of introvert type as is seen in our other schizophrenic patients, but we find irregularities in the home situation very frequent. Although the prognosis for recovery is grave, as is stated above, two of our patients had been kept in the home environment for a period of ten years before institutionalization was necessary. It seems that a good home environment with an understanding family or a good psychotherapeutic approach does prevent fast deterioration in such cases.

The catatonic group shows an exception to what has been said about schizophrenia. An acute fear reaction a few days after delivery with characteristic bewilderment, loss of contact with reality, and denial of the child may be found in this group. Like the other schizophrenic types the psychosis deepens in the following weeks and leads to the characteristic postural manifestations of a catatonic nature. The hospitalization is invariably necessary and should be early because of the self-destructive tendencies evidenced by refusal of food and general rapid physical debilitation.

The outcome of these cases is quite good and within a relatively short time the patient has a remission. Shock therapy is given in all our catatonic cases. In our experience convulsive shock seems to be more advantages than insulin. Even if recovery is not obtained there is usually an improvement in physical condition. Some patients recover spontaneously several weeks or months after the cessation of all shock therapy.

In the non-catatonic group of schizophrenics all forms of shock therapy were used and all of them have shown rather disappointing results. It has to be stated, however, that several of these patients went home in a state of fair remission and were brought back to the hospital in relapse, possibly because of known unfavorable home environment. It must be considered that these cases if placed in a suitable environment might have made at least a social adjustment. That the home environment plays an important part in the adjustment of these patients is indicated in the cases described above who were able to reside at home for more than ten years. In the institution these patients deteriorate quite rapidly unless individual attention and constant psychotherapeutic efforts are made to keep them at their present level. The physician treating such patients should be aware of the fact that the prognosis in these cases is extremely bad.

Comment — It is generally assumed that in post partum psychosis the prognosis is quite good. This, however, is only true of the manic-depressive group and the catatonic form of dementia praecox. According to our experience cases of schizophrenia developing in the puerperal period have a tendency to deteriorate quite rapidly. They become untidy and idle and form one of the most markedly regressed groups in our schizophrenic population.

We notice the rarity of the paranoid states in this group which may be explained by the

fact that these patients are relatively young, and it is known that paranoid features usually develop later in life. However, it is thought that other factors might possibly be significant which are not as yet known. We found that a good prognosis for further home adjustment could be expected in cases of psychoneurosis and mental deficiency and that in both types of illness the most pronounced feature of the break-down was a feeling of inadequacy in the care of the child. These cases responded well to psychotherapy.

It is usually assumed (Rennie[5]) that a good prognosis can be expected in schizophrenic psychoses if there is an acute onset in the female sex with adequate precipitating factor, adequate attempt at heterosexual adjustment, and short duration. This does not hold true in cases developing during the puerperium since the factors are present in all cases. Many other factors tending towards a good prognosis have been proposed (Rennie, Langfeldt, Wittman, Piers) with special regard to remission after shock therapy. Although the post partum psychoses have a number of these good prognostic factors in common the generally bad outcome in our schizophrenic cases seems to indicate that personality factors and the environment play the most important part in the prognosis. It has been stated that toxic factors tend to indicate a good prognosis, but some of our deteriorated schizophrenic patients had a high temperature in the early stages of their illness.

CONCLUSIONS

1. The prognosis in the cases of post partum psychosis depends chiefly on the psychotic manifestations in the individual cases. Patients in whom manic-depressive features are outstanding, recover almost invariably while patients in whom schizophrenic symptoms are predominant generally do not recover.

2. Patients developing manic-depressive psychosis, manic phase, following pregnancy recovered in a shorter period of time than cases in whom pregnancy was not the contributing factor.

3. Toxic factors do not change the prognosis and high temperature can be observed in the beginning of schizophrenic as well as of manic-depressive psychosis.

4. Environmental factors seem to play an essential part in the production of a psychosis, and changes in the environment or good ability of the individual to adjust herself are necessary for a good prognosis.

5. Shock therapy does not seem to alter essentially the recovery rate of post partum schizophrenic psychosis but may shorten periods of depression. Perhaps shock therapy plus environmental changes may decrease the time of institutionalization in schizophrenics.

6. Psychotherapy is of some aid especially if applied ante-partum, and should be directed towards encouragement of the mother that she will be able to care for her child in spite of all adversities, and that life will be more satisfactory to her because of the child in the home. If the accomplishment of this aim seems unlikely other arrangements for the care of the child should be made early.

7. With adequate psychotherapy in schizophrenic cases it seems to be possible to keep the patient much longer in the home environment, and it is possible to delay the deteriorative effect of the schizophrenic process even when recovery cannot be expected.

I wish to thank Dr. Erich Liebert for his review of the cases discussed and for suggestions from his own experiences.

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DISCUSSION

George E. Rooney, M. D. (Joliet): I have been fortunate enough to see about twelve cases in the last three years in the age group from 19 to 42. Symptoms usually followed, as Dr. Chapman has said, the manic depressive psychosis and also the schizophrenic. In three cases we had a woman who had been sick before with the same disturbance.

In the treatment of these cases we usually use shock therapy. These patients took on an average of from two to eight treatments. The results of treatment: Four cases were completely cured within three weeks; five cases were completely cured within three months; three cases remained in the hospital for a period of about four weeks with eight treatments of shock therapy and did not improve but later at home were completely well. Another one was improved at six months and one showed definite paranoid schizophrenia at the end of two years and was in the hospital.

We usually saw these cases about the third day after postpartum. We were very fortunate to catch these cases early and I believe that the earlier therapy is started in postpartum psychosis, the better the results.

Roland P. Mackay, M. D. (Chicago): It seems to me that the physician or neurologist who is in active civil practice sees a somewhat different type of postpartum psychosis from that seen in the State Hospitals. It is probably inevitable that a patient who carries around with her the germ of psychosis but who is able to adjust herself under normal living conditions may develop a psychosis of a recognized type under the stress of child-bearing.

It is my impression, however, that most of the patients which we see in a large general hospital with a postpartum psychosis have psychogenic factors as the basis for their psychoses.

I have been struck by the fact that most of these women express some hostility toward the child or toward the child's father. Of course the birth of a child in the home so to speak "nails down" the marriage, and it seems to me any woman who has hostility toward her husband and the birth of whose child tends to make her marriage more difficult to break, may become psychotic. Such mental illnesses are characterized very often by an interference with the sensorium, a denial of the child, denial even of the marriage, and a delusional structure related to being married. Perhaps such patient's don't all get to the State Hospitals, but they certainly are very, very numerous.

I am sure that if we could study these patients before the birth of the child, we would find in them the germs of abnormal mental states before the child is born. Consequently, I think that psychotherapy rather than shock therapy or any other drastic form of treatment is to be preferred in such cases.

If we can enter into the home situation in some way to alleviate some of the stresses there, these patients will get along very well.

Certainly not all the postpartum psychoses are manic depressive, paranoid or catonic. Most of them are schizoid, in my opinion, or perhaps hysteroid, and most of them eventually get well for that reason.

LONGER LIFE JACKETS SUGGESTED TO PROTECT AGAINST DEPTH BOMBS

Journal Editorial Outlines Recent Studies Of Blast Injuries And Points To The Need Of Further Investigations

One of the new hazards of war is the blasts from depth bombs which explode when a sinking warship reaches the depth at which the bombs had been set to explode when used to attack submarines. Sailors escaping from the sinking ship frequently are either seriously injured or killed if they are in the water within several hundred feet of the exploding bomb. Longer life jackets that would cover the abdomen as well as the chest have been suggested as a possible protection against such blasts, *The Journal of the American Medical Association* for April 10 points out in an editorial outlining experimental studies of such blast injuries.

"The basic experiments of Hooker and of Zuckerman," *The Journal* says, "demonstrated that the effects on the body of explosions both in air and in water are primarily due to the externally applied pressure wave. (E. R. P.) Williams observed that pressures set up by an explosion at some depth in water create a new factor. When the pressure wave reaches the surface, transmission of the pulse to air does not occur but there is a reflection as a wave of tension. . . . The human body, according to Williams, has roughly the same density as water. When the pressure wave impinges on the body reflection does not follow but the pulse will be transmitted through the tissues without displacement just as if the body were so much water. However, when the transmitted pulse encounters an air cavity in the body as, for example, the lungs, the static wave of pressure will change into a wave of kinetic energy in the layers of tissues lining that cavity and a disruptive effect will occur. Hence the lungs and other gas filled cavities in the body are particularly susceptible to damage from the pressure wave even though the body itself may not be deeply immersed. . . ."

The Journal points out that G. R. Cameron, R. H. D. Short and C. P. G. Wakeley found in their investigations that kapok and foam rubber are best capable of preventing or minimizing the injurious effects of the compression wave in experimental animals.

In cases observed by M. T. Friedell and A. M. Ecklund at the hospital at Pearl Harbor it was felt that possibly the life jacket had prevented such severe injuries to the lungs as to cause death and that the abdomen, which was unprotected, bore the brunt of the explosion. This seemed to be borne out by experiments of the two men and leads to the suggestion that extension of the life jacket to cover the abdomen would be beneficial. They also could find no evidence in their experiments that, as has been reported by other investigators recently, water was forced into the intestines through the lower opening, with rupture of the bowel. The injuries found in the bowel seemed to them to be a direct effect of the explosive force transmitted through the elastic walls of the abdomen and chest. Neither did Friedell and Ecklund note hemorrhages into the brain in their experimental animals which died primarily as a result of a blast. They felt that a blast wave sufficiently forceful to produce injuries within the head would certainly cause fatal injuries within the chest or abdomen.

"The numerous reports now appearing in medical periodicals," *The Journal* concludes, "and the many unanswered questions that are being raised relative to the effects of blast on various systems in the human body indicate the need for further investigation, both clinical and experimental. The approach through special committees or subcommittees of the Office of Scientific Research and Development and the Division of Medical Sciences of the National Research Council, which has been so successful in other problems, might well be applied in the case of blast."

REPORT ON STUDIES ON PASSIVE IMMUNITY AND ACTIVE IMMUNITY TO TETANUS

Information on several important questions concerning the treatment and prevention of tetanus, particularly as regards the duration of passive immunity and its effects on active immunity, is reported in *The Journal of the American Medical Association* for April 10 by Jean V. Cooke, M.D., St. Louis, and F. G. Jones, Indianapolis. Their report is based on observations on the immunization of children with clinical tetanus and of normal children. Passive immunity is that which depends on defensive factors not originating in the individual protected, but which is acquired by injection of immune substances produced elsewhere. Active immunity is that which is obtained by the active participation of a person's own body in producing immune substances — antibodies or antitoxins.

From their study of active and passive tetanus immunity on 39 children on whom more than four hundred tetanus antitoxin measurements were done, the two authors found that although passive immunization with the usual prophylactic dose of 1,500 units or less produces an immunity of only approximately three weeks, larger doses cause a much more prolonged immunity.

In 4 children with clinical tetanus it was observed that antitoxic immunity did not follow recovery from the disease.

The two authors report that "A passive immunity (to tetanus) can be converted into an active immunity by toxoid injections (a toxoid is a toxin, the poisonous qualities of which have been destroyed but which is still capable of inciting the production within the body of protective substances against that specific toxin). It was observed, however, that this transition can be produced as readily and as rapidly when the initial active toxoid injection is delayed several weeks as when it is started simultaneously with the antitoxin injection (which creates passive immunity). After passive immunization with 10,000 units of antitoxin and with toxoid injections at two week intervals an active immunity developed in from eight to twelve weeks regardless of whether the first toxoid was given simultaneously with the antitoxin or whether it was delayed two, four or six weeks. . . ."

The authors say that their observations tend to refute the value of simultaneous injection of antitoxin and toxoids in the production of active tetanus immunity and show that a delay of active immunization from two to four weeks following the antitoxin injection is indicated.

Industrial Health

Committee On Industrial Health — Frederick W. Slobe, Chm., 2024 South Western Ave., Chicago, Philip H. Kreuscher, Frank P. Hammond, H. A. Vonachen, R. I. Barickman.

OBJECTIVES OF THE MEDICAL PROFESSION IN INDUSTRIAL HEALTH AND HYGIENE*

FREDERICK W. SLOBE, M.D., F.A.C.S.

The prevention of ailments, incapacities, and accidents and, having occurred, their cure, have always been the aims of the medical profession. These common objectives, applying in every field of medical endeavor, are likewise the goal of the industrial health and hygiene program in Illinois. There is no essential difference between such a program in war or in peace. The war has simply acted as a catalyst in bringing together all the various forces and agencies concerned in the vital conservation of man-power to the end that the highest possible efficiency of industrial production be attained for the war effort. Let us hope that sufficient momentum will accrue such that the lessons learned, the improvements developed, and the advantages gained in the promulgation of the workers' welfare during the war, will not only be retained but even augmented in the peace to follow. For sound industrial health and hygiene measures not only enhance the welfare of the worker; they are "good business" for industry; and they are good for the community.

THE PREVENTION PROGRAM

The elimination or reduction to a minimum of ailments, incapacities, and accidents by attacking their source is fundamental. This includes:

(1) Periodic plant inspections relative to the identification, location, and control of unhealthful occupational exposures (including the study of toxic agents, ventilation, humidity, illumination, temperature, vibration, noise, dusts, vapors and fumes, etc.)

(2) Sanitary supervision of wash-room facilities, eating places, and of plant house-keeping.

(3) Safety control including devices to prevent or minimize accidents and harmful exposures.

Industrial hygiene laboratory studies are essential where possible hazards exist. Examples of such are air analyses for toxic chemical content, dust counts, and tests for the efficiency of exhaust systems.

THE HEALTH PROGRAM

To conserve the employees' health we must have accurate knowledge concerning employees, hence the importance of:

(1) Periodic examinations.

The first examination is the pre-placement examination before employment in order that the employee be assigned to a job commensurate with his physical and mental status; that his welfare and the welfare of others be not endangered; that advice be given concerning correctable defects and measures taken to avoid aggravation of pre-existing ailments.

Subsequent periodic examinations have the same general purpose plus the opportunity of observing the employee's reaction to his industrial environment. This is particularly important where toxic exposures are known or suspected to exist; in such instances periodic examinations of the blood may be necessary.

*One of the purposes of this article is to serve as a basis or outline for presentation by local physicians at industrial health conferences fostered by county medical societies.

Re-examination before the employee returns to work following a non-occupational illness or accident is likewise important.

Even before the war, the rejection rate following such a plan of examinations was extremely low and it has now dropped to perhaps less than 1%.

The physically handicapped are now at work; obviously a careful pre-placement examination is most essential here. For not only must the worker be fitted for the job but many times the job must be fitted to the worker. Men with amputated arms and legs, deaf mutes, the blind, and many with deformed or shrunken limbs are working at jobs suited to their limitations. And at such jobs, the production records of many of these fail to indicate any significant handicap.

Dental hygiene and oral prophylaxis are matters meriting serious consideration especially among male workers who are usually quite careless in this regard. Advice is given concerning dental care and a subsequent check-up conducted to see if the advice has been followed.

(2) Nutrition has come to the fore and deservedly so. Posters, leaflets, and bulletins are serviceable and in larger plants quite elaborate nutrition campaigns are conducted. Emphasis is stressed on the ingredients of an adequate diet with sufficient information as to the protective foods. Where indicated, supplementary administration of vitamins may be necessary.

(3) Fatigue manifestations if recognized in time and corrective measures taken may eliminate much loss of time and inefficiency. This is closely related to problems of hours of work, rest-periods, high-speed operations, bonus plans, night shifts, the optimum period for rotating shifts and the like. Noise may be an important factor in fatigue. Local fatigue in isolated parts of the body, causing disturbed function and various local ailments, often occurs from chronic over-use of a part.

(4) Absenteeism is arousing tremendous interest because it is a decided menace to production. Non-occupational ailments and injuries cause ten times as much lost time as occupational diseases and injuries, hence the need for preventing or diminishing the frequency of such ailments and their prompt alleviation if incurred. Absenteeism may be divided into three groups. The first group consists of actual, justifiable incapacity due to a disabling condition. Here our duties involve prevention, scientific alleviation, and controlled observation to insure that such absences are not prolonged beyond the safe requirements. The second group comprises those who deliberately remain away from work without adequate cause — the saboteurs of production. Strenuous week-ends, high wages coupled with restrictions on spending, the desire for recreation, and over-optimism as to an early victory are among the causative factors. Carefully planned measures are needed to curb such wilful absences. The third group is the mixed group in that, although no complete incapacity exists, extenuating circumstances may be present, to allow a reasonable justification. Such conditions include fatigue, long hours, lack of a vacation, poor transportation, inclement weather, inadequate housing facilities, personal and business affairs, etc. Coupled with an indifferent morale, these factors often create absenteeism.

All plants might well adopt the slogan of the Cessna Aircraft Company, offered by a seventeen year old girl employee, "You Can't Spell Victory With an Absent T." Moral persuasion is more effective than disciplinary measures.

(5) Morale must be elevated and maintained at a high level. It has to do with the attitude of the worker and involves psychological, psychiatric, physical, economic, and sociological relationships. It has much to do with fatigue and absenteeism. Its roots are nourished not only by the local environment but by national and international policies as well.

(6) Communicable diseases require special measures of detection and control. Tuberculosis, venereal diseases, and various epidemic and endemic diseases all demand individual methods of handling.

(7) Women in industry, due to the great influx of female workers, present new problems in a health program. Their productivity is affected by their high absenteeism rate, menstrual disorders, pregnancy and emotional upsets.

(8) The Executives. These key-men are hard to replace; many of them work 50 hours a week in the plant and worry 30 additional hours outside the plant. They must be kept fit for much depends on their fitness. In our concern for the health of the worker, the executive has been neglected and left to his own devices, which often need considerable guidance.

(9) Mode of living. Out of a week of 168 hours, the worker spends all except 40 to 60 hours outside the plant. These outside activities have an important bearing on the employee's efficiency. Habits, home environment, and domestic affairs often cause more fatigue and emotional disturbances than the work itself.

THE REMEDIAL PROGRAM

Prompt, efficient care of occupational injuries and ailments minimizes incapacity and disability. Very essential is the adoption of the uniform rule that all employees so afflicted must report to the medical department immediately. A minor accident may develop into a major incident. The full-time physician, the part-time physician, the full-time or part-time nurse, and trained lay personnel are utilized depending on the size of the plant. Requisite skill and training of all concerned in the treatment of the injured must be assured. An injury may disable a man from performing his regular work but often does not incapacitate him from engaging in other important duties. Cooperation between the surgeon, the patient, and management can greatly curtail lost time due to injuries.

Occupational diseases, including the frequent occupational dermatoses, likewise require early recognition and skillful handling. Prompt transfer of such patients to a different department may prevent much lost time. Plant and personal hygiene must be effectively combined here to obtain optimum results.

Various minor ailments, which impair efficiency but do not incapacitate, require the availability of simple methods of treatment during working hours. Examples are "colds," menstrual cramps, headaches, and minor gastro-intestinal upsets. If the ailment is persistent or incapacitating, the patients are referred to their family physicians. This type of supervision usually results in many more employees going to their personal physicians than would otherwise occur, as they are usually loathe to consult a physician for what they consider to be a trivial ailment.

Adequate records covering each contact with the medical department are very necessary. A constant awareness can thus be developed concerning accidents, ailments, absenteeism, and periodic examinations.

The above summarizes some of the important objectives concerned in plant prevention and safety control, health control, and of treatment. The scope of such work is vast, dealing with professional groups, employees, management, labor, and city, county, state, and national agencies. In order to develop a unity of effort, a correlation of these various interested groups is urgently needed.

THE CORRELATION PROGRAM

To achieve or even approach our objectives there must be a coordination of all activities concerned with the conservation of man-power.

The Medical Profession.

(1) Stimulation of physicians' interest in the industrial health campaign and a realization that each physician, directly or indirectly, is associated with it, are indicated. More physicians, both full-time and part-time are needed in the industrial field.

(2) Facilities for education in industrial health and hygiene, and the care of injuries. "Refresher courses," graduate and post-graduate training, and affiliations with established industrial medical organizations must be rendered available for those newly entering the field or for those desiring supplementary training.

(3) A Certification Board of Physicians and Surgeons in Industry would appear to be a logical development. Steps are being taken with this end in view.

(4) Committee organization.

Under the guidance of the Council of Industrial Health of the American Medical Association, each county medical society should have a committee on industrial health, such committee activities being coordinated through a similar committee of the state medical society. Local activities are best handled in this manner, also problems of industrial health and procurement.

(5) State industrial hygiene bureaus and local health departments are of inestimable help in sponsoring and aiding this plan.

(6) National agencies.

The United States Public Health Service through its department of industrial hygiene is a source of valuable information and help. The same applies to the Subcommittee of Industrial Health of the Federal Security Agency.

(7) Medical organizations.

The Council of Industrial Health of the American Medical Association, the American Association of Industrial Physicians and Surgeons, the American College of Surgeons, and many national, sectional, and local medical societies representing special types of practice are devoting much attention to this field.

(8) Nurses.

The industrial nurse, under medical supervision, fulfills important functions, involving both the actual care of patients, prevention programs, health education, and acting in a liaison capacity between the physician and the plant. Close cooperation should exist between the medical profession and local, state, and national Nurses' Associations, including the State Councils of the National Nursing Council for War Service.

(9) Relationship between physicians directly affiliated with industry and those having no direct affiliation.

Close cooperation will avoid much duplication of effort and misunderstanding. A free interchange of information is most helpful, such as a note or a phone call when an employee is referred to his personal physician. Patients are often wrong in their conclusion as to the origin of an ailment or supposed injury and the personal physician may unwittingly acquiesce; a phone call to the physician who knows the worker's environment should help clarify the situation. Avoidance, by all physicians, of expressing definite opinions until the facts are ascertained will have a wholesome effect. Plant physicians should give the greatest consideration to requests of personal physicians that an employee be transferred to a different shift or a different department; and, likewise, physicians making such requests should be sure of their grounds before making them.

Doctors in general practice can do much to preserve the employees' morale, reduce absenteeism, and to promulgate all the general principles outlined above.

Management.

A responsive plant management is essential to the success of this program. While many large corporations are reasonably cognizant of its value, much missionary work remains to be done in the small plants. Helpful procedures to be followed include:

(1) Development of the realization among plant executives that an industrial health program, in addition to its humanitarian aspects, is really "good business." Factual evidence and statistics furnish ample proof of this and should be available for presentation.

(2) Stimulation of the interest of plant officials in all the aspects of industrial health and hygiene.

(3) Enlistment of the support of trade journals and manufacturers associations' magazines so that requisite publicity be obtained for educational purposes.

(4) Invitation of plant officials to attend industrial health conferences and participation by them on the programs.

(5) Cooperation between management and employee-labor organizations.

A knowledge and understanding of the principles involved in the "better health" effort should eradicate certain deterrents which have existed in the past.

(6) Recognition of the value of plant medical services by adequate remuneration of the physician and by granting him a sufficiently high executive status.

The Employee; Employee Organizations; Organized labor.

The employee is the direct recipient of the benefits accrued through the adoption of this plan. Health education, safety measures, and even the optimal effects of remedial treatment will be largely nullified unless they reach a receptive mind. The employees and their organizations have a deep obligation to help this program for by doing so they help them-

selves as well as the war effort. Helpful procedures, then, should include:

(1) Educational measures relative to the obligations of the employees and their representatives in view of the fact that this campaign is for their benefit.

(2) Stimulation of morale by talks, articles, and pamphlets.

(3) Invitation to industrial health conferences by employees' representatives and union leaders with representation by them on selected programs.

(4) Development in employee organizations and unions of specialists who are conversant with the principles of industrial health and hygiene.

(5) Joint management and labor cooperation — to create a mutual understanding of the principles involved.

The above is a brief summary of the objectives of the medical profession in its endeavor to improve and maintain the health and fitness of the industrial worker. Essentials in the prevention and safety program, the health program, and the remedial program are outlined as well as data pertaining to the correlation of the activities of the medical profession, plant management, and labor. It is hoped that this material will be useful for presentation to any of the professional or lay groups interested and concerned in the conservation of the welfare of the workers in industry.

CHLORACNE — "CABLE RASH"

Considerable interest is being devoted to chloracne. The February, 1943 Bulletin of the Division of Industrial Hygiene, National Institute of Health, Bethesda, Maryland has reported a recent dermatitis outbreak in the Seattle shipyards, and lists some valuable measures of prevention.

"The chloracne among electricians in Seattle shipyards which caused considerable alarm and a threatened strike, was due to the type of cable used and the fact that the electricians handled it continuously, reported Dr. Louis Schwartz, who made the investigation. Only one shipyard had cases of chloracne. The 3 remaining yards used another type of cable and electricians spent only part of their time stripping.

"The alarm and the threatened strike in the Seattle shipyards followed newspaper reports of a dermatitis outbreak and 3 deaths of acute yellow atrophy of the liver among workers at the Anaconda Copper Company, Hastings-on-the-Hudson, New York. The Seattle electricians were handling wire made by the Anaconda Copper Company and some of them had developed a dermatitis which they attributed to handling the wire. They were finally persuaded to remain at work until someone from the U. S. Public Health Service could arrive and make an investigation. Dr. Louis Schwartz immediately flew to Seattle where he examined workers in the 4 shipyards who had the so-called 'cable rash' to determine if it was a chloracne.

"The cable which caused the acne was found to be the Anaconda cable in which asbestos impregnated with chlorinated compounds is loosely packed and flakes off during the stripping operations. Precautions recommended by Dr. Schwartz for handling this special Anaconda cable with the loose insulation are:

1. Workers engaged in stripping cable containing either chlorinated naphthalene, chlorinated diphenyl, or chlorinated diphenyl oxide should be supplied with hood respirators. It is preferable to have these hood respirators made from a transparent synthetic resin such as pliofilm or vinylite, or perhaps a fire-proof cellophane. The eye piece should be a large flat plate of lucite rather than the conventional double lenses. The respirator should be closely fitted to the nose and contain such filters as will efficiently remove dust and wax.
2. Workers should be supplied with clean overalls daily, the overalls to be laundered at the plant.
3. Workers should wear long underclothes and change them daily.
4. Workers should be required to take a shower before going home, and they should be furnished with toilet soap for this purpose.

"If the hood respirator cannot be obtained or used, protective ointments of the type that coat the skin with a dry film and prevent the halowax from touching the skin should be applied to the face, neck, and ears. Two such ointments are the tetryl protective cream de-

veloped by the U. S. Public Health Service, obtainable from the West Disinfectant Company, and a preparation called 'Sav Skin No. 2', obtainable from the Doak Company, Cleveland, Ohio. These ointments should be applied before going to work, washed off before going to lunch, reapplied after lunch, and washed off before going home.

"At the end of the investigation, a meeting of the dermatologists in Seattle was called and 4 cases of chloracne were presented before them to acquaint them with the diagnosis of chloracne and the recommended treatment methods. For a detailed discussion of chlorinated naphthalenes and diphenyls hazard, see the January issue of this news letter."

TREATMENT OF EPIDEMIC KERATOCONJUNCTIVITIS

In the Journal of the American Medical Association, March 27th, 1943, Drs. A. E. Braley, and Murray Sanders of New York presented a preliminary report of ten cases treated by the intravenous administration of convalescent serum, in doses varying from 15 to 50 cc. Nine of these were said to have shown striking clinical improvement within a short time. This is of interest because this disease has been considered to be self-limited, only the usual symptomatic measures of treatment being utilized. Dr. Sanders apparently has used the blood serum from persons having recovered from the disease in experiments on mice, stating that the serum contains a substance which neutralizes the virus of these experimental rodents. Obviously, this is purely a preliminary report and controlled studies will be needed, using standard, accurately titered convalescent serums.

VENEREAL DISEASE CONTROL IN INDUSTRY

The December, 1942 Bulletin of the Division of Industrial Hygiene, National Institute of Health, Bethesda, Maryland contains the following interesting information concerning venereal disease control in industry:

"Recommendations to State and local health departments for a venereal disease control program in industry appeared in the November issue of Industrial Medicine and the November 14 issue of the Journal of the American Medical Association. The program was suggested by a special committee composed of Drs. O. L. Anderson and W. C. Dreessen of the U. S. Public Health Service, by Drs. Walter Clark, New York, E. R. Hayhurst, Columbus, Ohio, E. C. Holmblad and Carl M. Peterson, Chicago.

"The program recommended involves cooperation between employers, employees, the medical profession, and State and local health departments. Responsibility for administration would rest on industrial hygiene and venereal disease divisions of the State health departments.

"The control plan should be inaugurated with an educational program directed both to employer and employee. Besides furnishing a general understanding of the venereal diseases, their causes, prevention, spread, and cure, it should convince employees that adequate treatment protects health and the ability to earn a living. Employers should understand that all cases of venereal disease are not infectious, and that under proper treatment infected persons may be employed safely and profitably. Educational media should consist of posters, folders, pamphlets, speakers, and motion pictures.

"The program advocates a complete physical examination of workers including sero diagnostic test for syphilis, and, when indicated, a smear or culture for gonorrhea. Pre-placement examinations should be mandatory for all workers. It is of the 'utmost importance' that results be confidential between workers and medical staff.

"The crux of the program lies in the adoption of a sound employment policy.

"The committee comments: 'There is no reason for denying employment to an applicant or for discharging an employee because an examination has revealed evidence of syphilis or gonorrhea, provided: that the employee agree to take such treatment as may be indicated; that if the stage of the disease is infectious, employment should be delayed or interrupted until such time as a non-infectious state is established through treatment, and open lesions are healed; that, when syphilis exists in a latent stage, employment should not be delayed or interrupted; that when disabling manifestations exist which would render such individuals industrial hazards to themselves, other employees, or the public, employment may be deferred or denied; that provision be made, whenever possible, for oc-

cupational readjustments of employees who develop disabling manifestations that do not incapacitate them from performing some type of useful work; that workers with syphilis in any of its stages, and regardless of past or present treatment status, should be excluded from areas of toxic exposure, and that those having cardiovascular or neurosyphilis should not be exposed to such physiologic stresses as extremes of temperatures, strenuous physical exertion, or abnormal atmospheric pressures; that workers with gonorrhea should be allowed to work only under special medical observation during the administration of sulfonamide drugs'."

PLANS ALREADY HAVE BEEN MADE TO CARE FOR BLINDED MEMBERS OF ARMED FORCES

Plans already have been made for the handling of members of the armed forces who are blinded in this war, *The Journal of the American Medical Association* points out in its April 10 issue. *The Journal* says:

"Among the casualties of war few merit more immediate consideration than that given to those who become sightless as a result of their participation in the national defense. In World War I, according to available figures, less than 250 Americans were blinded. Thus far the number of British soldiers who have become sightless, including the men from Great Britain and the colonies, is somewhat less than a few hundred. Planning bodies, therefore estimate that the number of Americans in the armed forces who become totally blind will not exceed a few hundred. For the past six months representatives of the Surgeon Generals of the Army, the Navy, the Public Health Service, the administrator of the Veterans Administration, the Federal Board of Hospitalization and the ophthalmologic committee of the Division of Medical Sciences of the National Research Council have been engaged in a study of the problem. An elaborate program has been developed to rehabilitate socially and economically those who become sightless. Sufficient funds have been provided by the Congress to meet every possible need. The plans contemplate utilization of existing agencies which deal with the blind. However, public fund raising campaigns are unnecessary since the over-all need is hardly sufficient to demand special expansion for this purpose in the services of unofficial agencies. In accordance with the executive order of the President, the social rehabilitation of the blind becomes a function of the Veterans Administration and is to be handled by the Division of Educational Rehabilitation and not the medical division. Through the cooperative effort now in process of development the rehabilitation will begin just as soon as the diagnosis is made and will continue from the time of reception of the invalid by the armed forces until the man can be discharged from the Veterans Administration physically, mentally and socially rehabilitated."

WOUND HEALING

One aspect of wound healing is often overlooked by the surgeon, the fate of the cells killed during the incision, during control of hemorrhage, or possibly killed by tight suturing. All these dead cells must be removed by phagocytosis alone if the wound is closed, or by phagocytosis and sloughing if the wound is left open. The more dead cells left in a wound, the more likely will infection result. Granulation tissue is a protection against infection only so long as the surface in intact. Systemic factors such as anemia, local factors such as infection, movement of the wound edges, epithelization of the wound surfaces may all retard healing. Delayed healing should suggest presence of a foreign body, or specific infection such as tuberculosis or actinomycosis, or malignant tissue in the walls or base of the wound.—*Tri-State Medical Journal*

Thanks to books the dead appear to me as though they still lived—everything decays and falls into dust by the force of time; Saturn is never weary of devouring his children and the glory of the world would be buried in oblivion had not God as a remedy conferred on mortal man the benefit of books. * * * Books are the masters that instruct us without rods or ferrules, without reprimands or anger, without the solemnity of the gown of the expense of lessons. Go to them, you will not find them asleep; if you err, no scoldings on their part; if you are ignorant, no mocking laughter.—Quoted from RICHARD DE BURY (Philobiblion, 1325) in a *Surgical Pilgrim's Progress* 1845-1925, Reminiscences of Lewis Stephen Pilcher.

Nothing is so firmly believed as what we least know.—***Montaigne.***

Clinicopathologic Conferences

J. J. Moore, M.D., Department Editor.

PRESENTATION OF CASES

By
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PERIARTERITIS NODOSA

Report of 3 cases

Case 1.

Dr. I. A. Rabens: A 52 year old white woman, a storekeeper, was admitted on July 17, 1938. She was well until three months previous to admission. Since then she was aware of progressive loss of strength, of occasional night sweats and of loss of weight — a total of 14 pounds. This was attributed to anorexia. Recently she had attacks of palpitation of short duration and some dyspnea. These gradually became more frequent, though she attended her store daily for twelve and fourteen hours. She consulted a physician who suspected thyrotoxicosis, but two basal metabolism tests within a month were normal. A few days prior to admission, while sitting in an automobile, with the door open and speaking to a friend, she suddenly fainted and fell out of the car onto the sidewalk. She promptly picked herself up, not knowing what had struck her and resumed her conversation. When first seen by me, she was aware of peculiar short spells of palpitation and believed she had had a few transient fainting spells while in bed. Inquiry revealed no history of headaches, dizziness, blurring of vision and disturbance of hearing. Patient had no hemoptysis, no chest pain, and no afternoon rise in temperature. She had never had precordial pain or nocturnal paroxysmal dyspnea. Anorexia was fairly marked but no nausea, vomiting, epigastric distress or diarrhea. Urination was normal, there was no nocturia. She complained of being nervous and restless, but attributed it to a fright during a robbery in her store.

The past history was not significant. There was no history of rheumatism, or of hypertension. Menopause set in six years ago. She had one living child, a daughter, twenty-three years of age.

The patient was well-developed and nourished, rather pale, apprehensive looking. The vessels of the neck showed pulsation. The right lobe of the thyroid was full. There was no glossitis. The pupils were equal and reacted to light and accommodation. Superficial lymph nodes were not enlarged. The lungs were resonant throughout; there were no rales anywhere. The cardiac impulse was heaving in character; there were no thrills, and the heart was moderately enlarged. The tones varied: at times forceful and loud and then suddenly distant. The rhythm was peculiarly irregular. There were frequent extra-systoles, with silent periods, frequent accelerations and slowing of the rate and irregular deficit at the radial artery. It was difficult to decide between an auricular fibrillation or constantly varying heart block. Then suddenly there was perfectly regular rate and rhythm. There was a systolic murmur over the whole precordium. Blood pressure was 128/80. A_2 and P_2 were within normal limits.

The abdomen showed moderate tenderness on deep pressure. The liver, kidney and spleen were not palpable. The extremities showed no edema, no tender areas, no subcutaneous nodes. There were no petechiae anywhere. The reflexes were brisk and normal.

A tentative diagnosis was made of myocardial degenerative changes, especially involving the conduction system, with probable Stokes-Adams syndrome to account for the fainting spells.

Course: On day of admission, while resting in bed, patient suddenly had a fainting spell. The face became extremely pale, the head dropped over to the right, pupils became dilated, then face became dusky. She was completely unconscious, pulseless, and there was complete cardiac standstill. Respirations were irregular and stertorous. This lasted about ten or twelve seconds. Then suddenly she came to, complained of being very weak. The heart rate was from 120 to 130 and markedly irregular. From then on these attacks began to recur irregularly every twenty to sixty minutes. When the attack lasted from fifteen to twenty seconds, there were convulsive movements of the neck muscles and at times also of all the extremities. At times instead of a tachycardia, a bradycardia of about from forty to fifty would ensue. An electrocardiographic machine was brought into the room and graphs were taken during the attacks. They showed periods of complete ventricular standstill of varying duration with pulsus bigeminus of auricles followed by 2:1 block. Right ventricle and left ventricle showed extrasystoles and again periods of ventricular standstill.

Management: Adrenalin (from five to ten minims) was given every two hours; 5 per cent glucose intravenously. The attacks continued in frequency and duration, so adrenalin (5 minims) had to be given every hour and, at times, more often. After about two or three days, the attacks diminished in frequency and adrenalin was reduced and ephedrine sulphate grs. 3/8 and barium chloride grs. 1/2, three times a day, were added to counteract whatever vagus influence there may have been. By the end of seven days, these attacks completely stopped and the rhythm became perfectly regular. The rate was 110-130. The EKG showed prolonged P-R intervals with early arborization block. She was now quite comfortable and cheerful, took food and slept well. She was, however, running a mild fever since admission, varying from 99.5 to 100.5 F., which was hard to explain.

Laboratory findings: Stools were negative. Blood chemistry showed sugar 97 mg. p. 100 cc., urea nitrogen 11.8 mg. Serologic tests for syphilis were negative on two occasions. Sputum was repeatedly negative. Agglutination tests for typhoid, paratyphoid and for undulant fever were negative. Blood cultures were sterile on repeated examinations. Urine was essentially negative; there were occasional white blood cells but no red blood cells. Blood counts: RBC. — 4,130,000, 4,000,000, and 3,650,000, Hb. — 68 per cent and 70 per cent, WBC. — 13,300, 12,900, and 11,200; differential counts were normal. An x-ray of the lungs showed interlobar thickening, no foci of inflammation. Vigilant search for petechiae or other evidences of emboli was fruitless.

Subsequent Course: Patient continued to feel well and free of attacks. There was tachycardia but no irregularity. The mild fever continued. At the end of two weeks patient suddenly developed pain in both hands which showed no blanching, cyanosis, redness or swelling. This was relieved by hot compresses. The pain kept recurring and lasted longer each time. There was no change in motor or sensory functions. There were no nodes at finger tips or anywhere else. Previous medication was stopped and only small amounts of codeine and aspirin were given, and hot applications which always helped. The temperature became a little more septic, 99 to 102 F. The pains continued for about eight or ten days and gradually subsided.

On the 42nd day of the patient's stay in bed, the pulse rate suddenly dropped from 120 to 48 and became markedly irregular, with frequent asystoles, distant tones and frequent gallop rhythm. The patient became listless and very weak. She was promptly put back on the old treatment, but there was not the quick response as before. EKG showed complete A-U dissociation with slow ventricular rate, V extra-systoles, and very low voltage. The next day, patient died suddenly.

The final antemortem diagnosis considered was either 1) a subacute bacterial endocarditis with severe myocardial involvment, or 2) coronary occlusion with severe myomalacia especially involving the interventricular septum.

Essential postmortem findings. Dr. I. Davidsohn: Necropsy was performed 3½ hours after death. The body was well developed and poorly nourished. The skin and visible mucous membranes were pale and showed no petechiae or any

other abnormalities, except a healed old thyroidectomy scar. There was no edema. Old dense adhesions to the chest wall and to the diaphragm were found in the right pleural cavity. The heart weighed 380 Gm. The outer surface showed occasional nodules, measuring from less than a millimeter to almost 2 mm. and located in the vicinity of the blood vessels. The larger nodules were hemorrhagic. A thickening of the intima of the interventricular septum of the left ventricle extended from the base of the aortic leaflets for about 2 cm. Its surface was smooth. On sectioned surface through the septum there was present a grayish white tissue with brown streaks of irregular distribution which extended downward into the myocardium of the left ventricle and into the septum for about 1 cm. Upward it extended into the interauricular septum almost to the lower edge of the orifice of the vena cava superior. The mitral ostium and leaflets showed no abnormalities. The cavity of the left ventricle was dilated. The myocardium was soft, and light brown. The wall measured up to 15 mm. in thickness. The aortic leaflets were diffusely thickened, hardened, rigid and measured up to 2 mm. in thickness. The changes resulted in a stenosis of the ostium and an insufficiency of the valve. The pulmonary ostium and valve and the tricuspid ostium and valve showed no abnormalities. The right ventricle was dilated. The wall measured up to 4 mm. and showed an increased amount of fat. Coronary arteries: The lumens were patent and showed a few yellowish plaques of intima. Thyroid was absent due to an old thyroidectomy. Kidneys weighed 380 Gm. Consistency was firm. The capsule stripped with slight difficulty leaving a dark red-brown surface. Many miliary nodules about 1 mm. in size were present. The findings in the other organs were not significant.

Cause of Death: Acute heart failure due to infarction of intra-auricular and interventricular septums.

Anatomic Diagnosis: Heart: Periarteritis nodosa. Recent infarct of the interauricular and interventricular septums. Healing infarcts and old scars. Fibroplastic deformity of the aortic valve with resulting insufficiency of the valve and stenosis of the ostium. Dilatation of the left ventricle and of the right auricle and ventricle. Parenchymatous degeneration. Periarteritis nodosa of kidneys. Chronic bronchitis. Old pleural adhesions (right). Chronic perisplenitis. Acute and chronic congestion of lungs, spleen, liver and kidneys.

Bacteriologic findings. Heart blood culture: After forty-eight hours occasional gram positive cocci in long chains and many gram negative bacilli were present. The former were identified as non-hemolytic streptococci, the latter as Pseudomonas aeruginosa (B. pyocyaneus).

Microscopic findings. Heart: There was a diffuse increase of connective tissue particularly around the blood vessels from where it extended

Figure 1

Case 1. Lesion in kidney typical for periarteritis nodosa. Note necrosis of wall of artery and the periarterial nodule.

between the muscle fibers. Accumulations of lymphocytes, plasma cells and occasional large mononuclear and multi-nucleated cells were present. In addition, there was a diffuse infiltration with plasma cells and with occasional eosinophilic leucocytes. Many of the muscle fibers showed loss of striation and other degenerative changes of various degrees. In addition to above findings, sections from the upper portion of the inter-ventricular septum and from the interauricular septum showed areas of caseation necrosis surrounded by granulation tissue, by a leucocytic exudate and by moderate numbers of multi-

nucleated giant cells. Some of the giant cells resembled the Langerhans type of giant cell. Deposits of lime salts were present. The small arteries and arterioles showed thickening of the walls with a proliferation of granulation tissue around them. The lumens were markedly narrowed. Sections from the thickened aortic leaflets showed similar changes. Kidneys: Sections from the nodules showed an almost complete destruction of the normal architecture, and replacement by a diffuse infiltration with plasma cells, lymphocytes and occasional multi-nucleated giant cells with the nuclei at the periphery and a homogenous cytoplasm in the center. Arteries of different calibers showed necrosis of the walls. They were surrounded by a thick wall of granulation tissue with many fibroblasts, some of them arranged radially and with many leucocytes, eosinophilic as well as neutrophilic (Figure 1). Some were filled with thrombi. There were present foci of necrosis surrounded by granulation tissue and by leucocytes. In some places there was new formed connective tissue present while in others the cellular exudate predominated. In some glomeruli hyalinized thrombi were seen within the tufts filling out the entire glomerulus or only parts of it. Occasionally fibrosed and hyalinized glomeruli were present. Lungs: In a few areas necrosis of the arteriolar walls with thrombi in the lumen was found. However, the lesions were less frequent than in the kidneys. Spleen: Many small arteries and arterioles showed similar changes in their walls and similar surrounding granulation tissue as was found in the kidneys (Figure 2). Small focal areas of necrosis were present. The capsule showed deposits of granulation tissue with many fibroblasts, lymphocytes, plasma cells, and leucocytes surrounding extensive areas of necrosis.

Microscopic diagnosis: Acute periarteritis nodosa of heart, kidneys, spleen and mediastinal lymphnodes. Anemic infarction of myocardium. Subacute and chronic myocarditis and myofibrosis.

Summary: Recurrent paroxysms of Stokes-Adams syndrome with fatal heart failure were explained by a diffuse infarct of the septum of the heart due to periarteritis nodosa of a coronary artery.

Figure 2

Case 1. Necrosis of wall of artery with periarterial infiltrate. To the right a nodule with necrosis in center. This is probably a tangenial section close to an artery.

CASE 2.

Dr. Harry Rolnick: A 42 year old white man entered the hospital on April 23, 1941 with complaints of pain in legs, shoulders and arms of three months duration. The pains in the calves were cramplike and radiated up to the thigh. They were so severe as to make him bedridden. There was a weight loss of eight pounds in the last two weeks associated with weakness. Patient has been coughing during the last few days. The past history was not significant. The blood pressure was 120/70, temperature 99.2 F, pulse 100, respiration 30.

Both sternocleidomastoid muscles were tender. Moist rales were present in both pulmonary bases posteriorly. Heart was essentially normal except for extrasystoles. There was marked tenderness over both calves and shoulder muscles.

Laboratory Findings: Serologic tests for syphilis, agglutination tests for enteric infections and repeated blood cultures were negative. Sedimentation rate of erythrocytes was 87 mm. at the end of one hour. For other findings see table 1. EKG. was essentially normal except for auricular extrasystoles. On April 24, x-ray

examination of chest showed a round, ball shaped cloudiness in the left pulmonary apex and subapical area. On April 30, the process was found further advanced.

Course: Muscle pains were relieved following administration of aspirin. Pharynx and palate became acutely inflamed and temperature became septic rising up to 103 F. On April 28 the white blood count rose to 24,750. Patient began vomiting. Catheterized urines showed pus, albumin and many red blood cells. On May 4th patient was unable to void. Twenty-two hours after last voiding patient was catheterized and no urine was obtained. On May 5th patient still did not void. White blood count was now 25,200. Cystoscopy on May 6th revealed no elimination from right kidney and some elimination from left. Catheters were inserted. During this time blood pressure rose gradually to 200/90. On May 9th, bilateral nephrostomy and decapsulation were done. Both kidneys appeared enlarged. There was slight drainage of whitish material from left side, four hours after surgery. Patient was semicomatose. Blood pressure was 115/70, pulse 92, temperature 98 F. There was bilateral edema of extremities. On May 10th, small quantities of urine and blood were draining. On May 13th ecchymoses of left conjunctiva, muscular twitchings and edema of both lower extremities were noted. No urine passed through nephrostomy tubes. Patient was in a uremic state and expired on May 14th.

The rapid development of retention of nonprotein nitrogenous substances in the blood, of albuminuria and hematuria and the changes in the blood picture are recorded in Table 1.

TABLE 1

Blood Chemistry

Date	Sugar	Urea Nitrogen	Non-Protein Nitrogen	Uric Acid	Creatinine
4/24	82*	12*			
4/29	80	14			
5/5	Catheterization				
5/8		65	90*	6*	3.6*
5/9	Bilateral nephrostomy				
5/10		78	120	9	5
5/14	118	82	124	7	4

*mg. per 100 cc. of whole blood.

Urine

Date	Albumen	Red Blood Cells	Blood
4/24	±	very occ.	—
4/28	+	1 - 3*	+
4/29	++	few	++
5/2	+++	many	+++
5/10	+++	35-50*	+++
5/11	++++	very many	+++

*per high power field

Blood Counts

Date	Red blood Cells (millions)	White blood Cells (thousands)	Band Forms %	Neutrophilic leucocytes %	Lymphocytes %	Eosinophiles %	Monocytes %
4/24	4.5	16.5	2	87	2	6	3
4/28	4.1	24.7	1	81	3	12	4
5/5	3.4	25.0	4	81	1	11	3

Essential postmortem findings. Dr. I. Davidsohn: Necropsy was performed ten and one-half hours after death. The face was edematous. Two incisions (due to nephrostomies) were present in lumbar region. Ascites (400 cc.), bilateral hydrothorax (300 cc. on right side and 150 cc. on left), and hydropericardium (400 cc.) were present. A small recent anemic infarct was found at the margin of the left ventricle of the heart near the base. A grey consolidation, measuring 5 cm. in diameter, was found in the apex and subapical region of the left lung (Figure 3). Both lungs were enlarged, the left weighed 790, the right 740 Gm.

Figure 3

Case 2. Left Lung. The consolidation in apex and subapical region (A).

There was bilateral pulmonary edema. The enlarged spleen was adherent to the diaphragm, its capsule thickened and covered with white, firm hyaline plaques. Wedge shaped anemic infarcts and small nodules appeared on sectioned surface. Hyalinized firm nodes, the largest 2 cm. in size, were attached to the capsule especially in the hilus. Similar nodes and flat placques covered the lower surfaces of the diaphragm on both sides (Figure 4) and the capsule of the

Figure 4

Case 2. Lower surface of diaphragm, with many discrete and confluent nodes due to old, healed periarteritis nodosa.

enlarged liver (weight 2500 Gm.). The fat surrounding the kidney contained a moderate amount of extravasated blood. Both kidneys showed several large recent anemic infarcts. Several nodules from 1 to 2 mm. in size were found in the cortex. An old caseous and partly calcified tuberculous lymphnode, 1 cm. in size, was found in the mesentery. The mucosa of the colon was congested, but did not show changes often encountered in uremia. The other findings were not significant.

Cause of death: Uremia due to periarteritis nodosa of kidneys.

Anatomic diagnosis: Acute periarteritis nodosa of kidneys and spleen. Multiple anemic infarcts of kidneys. Healed periarteritis nodosa of liver, spleen, and diaphragm. Non-resolved pneumonia in left upper lobe. Acute anemic infarct of myocardium. State after recent bilateral nephrostomy.

Bacteriologic findings: Heart blood culture showed diphtheroid bacilli. Nodules from spleen were removed with aseptic precautions. Smears and cultures were negative. A guinea-pig and rabbit were inoculated. They showed no evidence of tuberculosis or of any other significant changes after six weeks and ten weeks respectively.

Microscopic findings. Kidneys: In addition to extensive, sharply delimited areas of necrosis and diffuse infiltration with leucocytes, the arteries of different sizes and the arterioles showed necrosis of the walls with complete destruction of cytologic details. They were surrounded by masses of leucocytes, many of them eosinophilic, and by lymphocytes. In some places the nodular character of the infiltration was clearly preserved, in some the infiltration and necrosis was limited to the adventitia and to the outer layer of the muscularis, the inner layers were preserved, but the intima was thickened and the lumen narrowed. The glomeruli showed only secondary changes. The involvement was clearly advancing from the vicinity. Acute arterial and arteriolar changes similar to those in the kidneys, but not as widely spread, were present in the spleen, liver, heart, diaphragm, adrenals, lymphnodes, and left lung. The lesion in the apex of the left lung showed diffuse necrosis with areas of suppuration and at the periphery a wall of granulation tissue with many multinucleated giant cells (Figure 5). Sections were stained for tubercle bacilli and for spirochetes with negative results. The similarity between this lesion and the renal infarcts was apparent. The hard nodes in the spleen, liver and on the diaphragm showed dense hyalinized fibrous tissues. Some were surrounded by masses of lymphocytes, plasma cells and by varying numbers of eosinophilic leucocytes. In some indistinct vascular outlines could be discerned. These nodes were interpreted as old, healing or healed lesions of periarteritis nodosa.

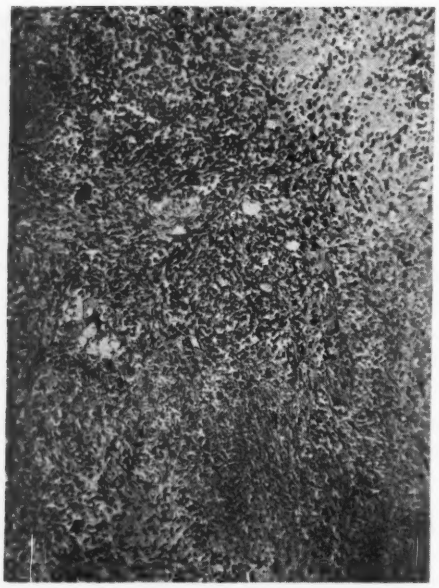

Figure 5

Case 2. Lesion in left lung showing necrosis (right lower corner), granulation tissue and multinucleated giant cells (to left fom center).

Microscopic diagnosis: Acute periarteritis nodosa of kidneys, left lung, spleen, liver, lymph nodes. Anemic infarcts of kidneys and heart. Anemic infarct and granuloma of left lung. Healed periarteritis nodosa of spleen, liver and diaphragm. Acute suppurative pyelonephritis and nephritis.

Summary. A rapidly developing uremia and pulmonary consolidation were due to periarteritis nodosa. Healed lesions of the same condition were found. The patient survived the previous attack or attacks because the location did not interfere with vital functions. The last attack was fatal because it resulted in renal insufficiency.

CASE 3.

Dr. H. Rolnick: A white 54 year old man was admitted on December 4, 1941 with a history of pain in the right abdomen since ten days. The pain radiated from the right lower quadrant upward to the back. It was dull and constant. When the pain first started, patient felt a desire to urinate but was unable to do so. He was catheterized and since that time voided spontaneously. There was no burning but patient complained of frequency and nocturia. Only small amounts of urine were passed each time. Patient complained also of belching, heart burn (relieved by sodium bicarbonate), anorexia, loss of eight pounds of weight in last two weeks, headache, nausea, and constipation.

The patient had an attack of cholecystitis four years ago and an appendectomy twenty-three years ago.

At the time of admission the blood pressure was 130/80, abdomen soft, flat, and tender on deep palpation in right lower quadrant. Temperature on admission was 101.4 F.

Laboratory Findings: Blood sugar 105 mg. per 100 cc. of blood, urea nitrogen 10 mg. Urinalysis: 5 white blood cells per high power field, faint trace of albumin. RBC. 3,800,000, WBC. 15,500, Hb. 13.5 Gm., band forms 3 per cent, neutrophilic leucocytes 85 per cent, eosinophiles 1 per cent, lymphocytes 7 per cent, monocytes 4 per cent.

Intravenous urogram revealed an enlarged right renal shadow with deformity and compression of the calices. The fever rose daily, assumed a septic course and on December 7, four days after he had been admitted to the hospital, it rose to above 105 F. Because of the high fever, the relatively acute onset and negative urinary findings renal carbuncle or perinephritic abscess were considered. His condition became worse and a right nephrectomy was done the next day. At operation the renal mass was large, felt somewhat soft and the fatty capsule was quite adherent to the kidney. The posterior peritoneum was injected and showed evidence of hemorrhage. The kidney was removed together with the surrounding fat. A large perirenal hematoma was found upon sectioning of the mass. The patient had a stormy post-operative course. On the third post-operative day, the pulse became irregular and feeble and there was marked dyspnea. He improved on the following day and thereafter had an uneventful course. He is now well and working.

Dr. I. Davidsohn: The kidney together with the surrounding fat weighed 1030 Gm. and measured 16 x 12½ x 10 cm. The consistency was soft. The perirenal fat measured in places up to 20 mm. in thickness. There was present extravasated clotted blood between the kidney and its capsule in a layer which measured up to 25 mm. in thickness (Figure 6). The blood was present on the anterior and posterior surfaces

and along the outer margin but not at the poles which were free. On sectioned surface several cysts were present varying in size from 10 to 25 mm. with smooth inner surfaces and not connected with the kidney pelvis. The cortex was swollen up to 8 mm. Its structure was fairly distinct. The clotted blood could be removed only with considerable difficulty from the surface. Its removal disclosed the presence of several larger cysts than were suspected before, one of them measuring up to 6 cm. with a gray

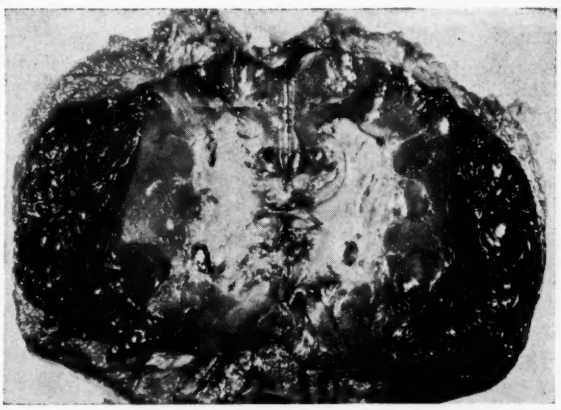

Figure 6

Case 3. Right kidney with massive perirenal hemorrhage. Large cyst near lower pole and several smaller cysts.

node 5 mm. in diameter in its wall. Some of the cysts were filled with a slightly hemorrhagic fluid but most of them contained a clear fluid. The kidney pelvis was of normal size, the mucosa showed no abnormalities. The ureter of which about 10 cm. was present presented no gross abnormalities. Dissection failed to reveal a blood vessel responsible for the hemorrhage. After the fat and the hematoma were removed the kidney weighed 200 Gm.

Microscopic findings. The glomeruli were intact. The tubular epithelium showed cloudy swelling. The interstitial tissue was in places infiltrated with many plasma cells, eosinophilic leucocytes, and lymphocytes. These inflammatory changes were particularly pronounced in some areas where they obliterated the normal structure of the kidney parenchyma. Some of the medium sized and small arteries showed fibrinoid swelling and necrosis of their walls and marked prolixeration of the intima with narrowing of the lumen. Some were surrounded by large numbers of leucocytes, many of them eosinophilic, and by lymphocytes. In most places only the adventitial layer was infiltrated, while in some areas the infiltration extended into the media and even into the intima. Some of the infiltrations had the appearance of circumscribed nodules consisting of granulation tissue with many fibroblasts, eosinophilic leucocytes, and plasma cells. These typical nodular lesions were, however, rather few in number. The above described inflammatory and vascular changes were most pronounced in the vicinity of a cavity near the lower pole. This cavity was surrounded by a rather thick layer of connective tissue which was diffusely infiltrated with neutrophilic and eosinophilic polymorphonuclear leucocytes, lymphocytes, and plasma cells. A few multinucleated giant cells were seen in this area. The cavity was filled with clotted blood and lined with granulation tissue which grew in from the wall into the lumen and infiltrated its contents. Many small hemorrhages were present in the cortex. Large amounts of clotted blood covered the surface of the kidney and granulation tissue grew in from the kidney parenchyma, infiltrating and organizing the hemorrhages. Blood pigment was present in the granulation tissue as well as in the epithelial cells of some of the tubules. The cysts were lined with cuboidal epithelium and filled with pink staining material. The grey node in the

wall of one of them, mentioned in the gross description, was made up of elongated and irregular tubular spaces lined with one layer of cuboidal cells. It showed many papillary projections in the lumens of these spaces and presented the picture of a papillary adenoma. The mucosa of the kidney pelvis was lined with transitional cell epithelium. The tissue underneath was infiltrated with lymphocytes, plasma cells, neutrophilic and eosinophilic leucocytes. Some of the tubules in the medulla as well as in the cortex were filled with a leucocytic exudate.

Diagnosis: Periarteritis nodosa. Chronic pyelitis. Acute ascending pyelonephritis. Multiple cysts. Old and recent renal and peri-renal hemorrhages. Papillary adenoma.

DISCUSSION

This disease was first described by Kussmaul and Maier in 1866[1], but it is probable that it had been observed already by Rokitansky in 1852[2]. There are well over 250 case reports in the literature.

Antemortem diagnosis used to be quite rare, only in about from ten to twelve per cent of cases, according to the reports in the literature. Recently the frequency of cases diagnosed during life has been on the increase, as evidenced by a recent report of Banowitch, Polayes and Charet[3]. In their series of five cases four were diagnosed during life.

The clinical picture is extremely variable. This is not surprising in view of the fact that the organ involved, the arteries of different sizes and the arterioles, are present in all tissues of the body and the manifestations depend upon the location of the involved arteries and on the function of the organ in which the involved artery is located. As a rule the clinical picture is that of an acute disease. Pain in the muscles of the legs and calves, as well as in the muscles of other regions of the body are frequently observed and the disease may simulate polyneuritis and myositis. In some instances it presents a septic picture, in some it resembles an acute hemorrhagic glomerulo-nephritis with renal insufficiency as in our case 2. Hemorrhages in various parts of the body, some from ulcers of the intestinal mucosa, occasionally severe and even fatal, have been observed. Cases with perirenal hemorrhages, similar to our Case No. 3, have been reported by other authors. In view of the fact that there is hardly an organ in the body which was not found affected in the reported cases, one may encounter manifestation of the most unexpected type.

The duration varies from as short as six days to months and even a year. Recurrences have been observed as evidenced, for instance, by our Case No. 2. Healing may occur. There are cases on record which were observed for many years without recurrence of symptoms, and one case is known to have remained well for twenty-five years.

The gross anatomic changes are those of nodules, occasionally felt in the skin and in the subcutaneous tissue, and infarcts resulting from the occlusion of arteries. Cutaneous nodules are important for the diagnosis during life but they have been observed only in about 20 per cent of the reported cases. Anemic infarcts in the kidney, especially in the absence of endocarditis, as a source of emboli, or of leukemia, should direct one's attention to the diagnosis of periarteritis nodosa.

The studies of the microscopic changes suggest several successive stages in the development of the lesions. The earliest change is a necrosis of the media of the artery leading to a loss of the normal structure. The media has a homogenous pink appearance in the hematoxylin and eosin stain. The earliest stage of necrosis is known as fibrinoid swelling. The necrosis affects the entire circumference of the blood vessel or only a segment of the circumference. Then follows an exudation of inflammatory cells beginning in the adventitia. Sometimes the pressure within the blood vessel causes a rupture of the wall and a hemorrhage which may be fatal especially in some vital organs, for instance, in the brain, or it may lead to a severe hemorrhage into the lumen of the gastro-intestinal tract. The exudate contains many leucocytes with a varying admixture of eosinophiles. The third stage is the formation of a granuloma within and around the blood vessel wall, especially in the adventitia. This granulomatous nodule led to the name of the disease. In this stage one sees frequently reactive proliferation of the intima or, due to an extension of the necrosis to the intima, thrombosis and occlusion of the blood vessel lumen. This, in turn, brings about infarcts and clinical manifestations depending upon the location and extent of the infarct. The fourth stage is that of healing with the formation of hard nodules or, if the involvement of the wall was segmental, aneurysms may result[4].

The kidney is the most commonly affected organ, lesions in it having been found in 80 percent of the reported cases and, as was shown previously, the kidneys were involved in all three cases of this series. The brain was involved in 8 to 10 percent of the reported cases. Pulmonary lesions, similar to our Case 2, have also been reported and the development of some has been traced with X-rays. Lesions have been observed in the arteries of the eye, jaundice has been reported as a result of lesions in the liver. Occlusion of cornary arteries with resulting infarction have also been described.

In some cases, leucocytosis has been observed up to 65,000 white blood cells, but occasionally leukopenia is present. In the differential blood picture there is an increase of polymorphonuclear leucocytes. Much attention has been paid in the literature to an increase in the number of eosinophilic leucocytes and diagnostic significance has been attributed to this finding. However, marked eosinophilia seems to be quite rare, although there are cases on record with 23 and 79 per cent eosinophilic leucocytes. None of our three cases showed this change. In some instances, an

increase of monocytes has been reported, in one case 38 per cent of them have been recorded. There are occasional instances of a rather marked secondary anemia.

There is no agreement on the etiology of the disease as evidenced by the numerous divergent hypotheses. Tuberculosis, syphilis, rheumatic fever and streptococcus infections have all been suspected but without much success. A specific virus is claimed by some writers as the etiologic agents although no proof has been brought forward. The virus etiology is supported mainly by the occurence in epidemic form in deer and in pigs of a disease with anatomic changes similar to those in periarteritis nodosa. The most recent hypothesis claims that the disease is due to allergy. During an infection, the arteries become sensitized and a subsequent infection brings about a so-called hyperergic inflammation in the arterial walls with the changes previously described. The histologic changes and the rapidity with which the lesions develop, lend some support to this concept. The sensitizing infection does not have to be due to the same micro-organism as the second infection. It is interesting in this connection that careful case histories reveal in many instances that the attack of the disease was preceded in many patients by infections like erysipeals, cellulitis, diphtheria, rheumatic fever, gonorrhea and similar other infections in the recent past. Blood cultures have shown, in several reported instances, streptococci and so have cultures of suspensions of the lesions themselves.

In view of the fact that the formation of nodules is not the outstanding feature of the disease and that the lesion is certainly not merely periarterial, it has been suggested, and with good reason, that the term periarteritis nodosa should be replaced by panarteritis.

The organs that have been reported as involved include kidney, spleen, heart, stomach, intestines, skeletal muscles, suprarenals, liver, pleura, nerves, internal mammary artery, arteries of neck, inter-costal arteries, arteries of epicardium, thyroid, diaphragm, prostrate, spermatic duct, testes, epididymis, brain, pulmonary artery, skin and appendix.

More complete references to the literature may be found in recent reviews[3, 5, 6].

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DANGERS OF BOTULISM IN HOME CANNING ARE POINTED OUT BY THE JOURNAL

The dangers of botulism, particularly during the coming home canning season when many persons who never before attempted home canning will be preserving garden produce, are pointed out by *The Journal of the American Medical Association* for April 17. *The Journal* says:

"Meyer and his associates in California have gathered statistics on 367 outbreaks of botulism in the United States since 1899. Only 83 of the outbreaks have been due to commercially canned foodstuffs; with one possible exception, outbreaks have not occurred in nearly twenty years from this source. The other 284 outbreaks have been caused by foods canned in the home. The total cases of the disease for the forty-three years numbered 1,052 with 687 deaths, a fatality rate of 65 per cent. How many other unrecognized cases have occurred is unknown. During the coming canning season many persons who never before attempted home canning will preserve garden produce. The danger from botulism is ever present unless proper precautions are taken. Faust, discussing methods of home canning, emphasizes the necessity of the pressure cooker with an accurate gage or thermometer for nonacid foods, such as string beans and corn. Any such foods that have been processed in any other manner must be reboiled for at least fifteen minutes before tasting or using. Any home canned food that shows the slightest evidence of spoilage should not even be tasted, for the toxin of the botulinus bacillus is the most powerful poison known. The problem calls for concerted effort by agricultural advisers and public health personnel in warning against faulty methods of home canning and alertness of physicians in recognizing symptoms and administering antitoxin early and in adequate amounts."

On the sides of buildings in Occupied France portraits of pigs have appeared, with the caption:

BORN IN GERMANY
FATTENED IN FRANCE
SALTED IN THE CHANNEL
AND ROASTED IN ENGLAND

Office of War Information

News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

The April issue of the MISSISSIPPI VALLEY MEDICAL JOURNAL was designated "Chicago Number" inasmuch as all of the papers contained therein were from Chicago members who participated in the All-Chicago program conducted by the Mississippi Valley Medical Society last fall.

At its last meeting, the Chicago Society of Allergy re-elected the same officers for the coming year.

President ..... Michael Zeller
President-Elect ..... L. E. Markin
Secretary-Treasurer ..... Helen C. Hayden

Illinois Medical Journal.
Gentlemen: —

I was very much pleased to receive the March edition of the Journal. It finally caught up with me. It certainly seems good to read about the things back home; and needless to say it really fills in the idle hours.

If possible I would appreciate receiving the Journal continually. My present address is

1st Lt. K. F. Kapov 0505893
221st Station Hosp.,
APO No. 856
c/o Postmaster
New York, New York.

Hoping you can oblige the above request without great confusion.

I remain
Fraternally Yours
K. F. Kapov, 1st Lt. M.C.

MARRIAGES

OMAR FAREED to Mrs. Martha Carr Moon, both of Chicago in Carson City, Nev., recently.

HARRY E. GRANT, Easton, Ill., to Miss Marietta Crosthwait of Chicago in March.

GUY O. PFEIFFER, O'Fallon, Ill., to Miss Mary Kathryn Kubitschek of St. Louis, March 9.

KENNETH H. SCHNEPP, to Miss Lois Catron, both of Springfield, March 31.

DEATHS

HUGH ATLEE BEAM, Moline; Northwestern University Medical School, 1903. Director of Rock Island County Tuberculosis Sanatorium since 1935. Past president of the Upper Rock Island County Tuberculosis Association; was one of the founders of the first tuberculosis clinic in Rock Island County. Medical examiner for the rural Rock Island County draft board since 1940. Served in same capacity in World War I until 1918 when he became a captain in the Army Medical Corps. Died in St. Luke's Hospital, St. Louis, March 30, 1943 at the age of 61 years.

JAMES BARTON BRADWELL; Chicago; Hehnemann Medical College & Hospital, Chicago, 1902. Publisher of the Chicago Legal Bulletin. Had practiced medicine on the south side for a number of years. Died April 8, 1943 at the age of 64 years.

SYLVAN COOMBS, Chicago; Rush Medical College, 1891. On surgical staff of Grant Hospital since 1900; former surgeon at Cook County Hospital. Had practiced medicine 51 years. Died April 8, 1943 at the age of 75.

JOHN A. DINWOODY, Chicago; Trinity University College of Physicians & Surgeons, Toronto, 1890. Practiced in Chicago's loop more than 50 years. Was an associate professor of medicine at Chicago Medi-

cal School and member emeritus of the Chicago Medical Society. Was medical examiner for merchant marines during World War I. Died April 17, 1943 at the age of 76.

ALBERT EDWARD DOE, Chicago; Chicago Medical School, 1921; a member of the medical department of the Chicago Rapid Transit Company; aged 61; died, February 13, in the Albert Merritt Billings Hospital of pneumonia following an operation.

WILLIAM V. GUTTERY, Middletown; Washington University School of Medicine, St. Louis, 1881. Had practiced in Logan County for 52 years. Was member of the "Fifty Year Club". Died April 21, 1943 at the age of 92.

ELNATHAN P. HATHEWAY, Ottawa; Rush Medical College, 1895. City health officer of Ottawa; practiced medicine 48 years. Died April 4, 1943 at the age of 84 years.

OSCAR HOUSE, De Soto; St. Louis College of Physicians & Surgeon, 1907. Jackson County physician for 35 years. Was killed March 17th when his car was struck by a train. He was 67 years old.

CARL IRENEUS, Chicago; National Medical University, Chicago, 1905. Was pathologist at Michael Reese Hospital. Died April 16, 1943 at the age of 71.

THEODORE C. KOESSEL, Chicago; Bennett Medical College, 1896. Practiced medicine in Chicago for 45 years. Died April 20, 1943 at the age of 70.

WILLIAM B. KUNZE, Belleville; St. Louis University School of Medicine, 1906. From 1908 to 1933 was in charge of Herman Kiefer Tuberculosis Hospital in Detroit. Died of tuberculosis April 1, 1943 at the age of 61.

WILLIAM H. G. LOGAN, Chicago; Chicago College of Medicine and Surgery, 1905; honorary degrees from Loyola, the University of Michigan and the National University of Ireland. Was dean and professor of oral surgery Chicago Dental College of Dental Surgery, Dental School of Loyola University. Served throughout World War I resigning with the rank of Colonel. Died April 6, 1943 at the age of 70.

ELAM ROWLAND MCBROOM, New Canton; Chicago College of Medicine & Surgery, 1908. Practiced medicine in Peoria until 1922 when he was admitted to the ministry of the Methodist Episcopal church. Since then has served as pastor and physician to rural communities in Illinois. Died March 18, 1943 at the age of 66.

WALLACE BROWN PERRY, Lincoln; St. Louis University School of Medicine, 1918; past president of Logan County Medical Society. Practiced in Lincoln 26 years. Died of a heart attack April 8, 1943 at the age of 52.

GEORGE M. REDMAN, Chicago; Chicago Medical School, 1921. Had practiced over twenty years. Died in Southtown Hospital March 27, 1943 at the age of 50 years.

RED BLOOD CELLS SALVAGED

Red blood cells, formerly a waste by-product in the preparation of blood plasma, are now being salvaged. A saline solution of the red cells from blood collected by the Red Cross for the armed forces is being distributed in Detroit to eight Wayne County hospitals, to supplement direct transfusions or use of blood in "banks."

Detroit, among the thirty-one blood donor centers of the Red Cross in the United States, is the first to use the red blood cells, according to Dr. Warren B. Cooksey, technical supervisor of the Detroit center. While the thirty-one Red Cross blood donor centers have provided more than 1,500,000 pints of blood plasma for the treatment of armed forces and others, a paradox in the situation has been that, except on a very small scale, the red cells have been separated from the plasma and thrown away, although it is these cells, traveling in millions in the blood, which distribute to all tissues the oxygen they require.

The function of blood plasma, administered to patients, is to restore volume to the circulatory system. Without this volume the remaining blood cells and those being manufactured in the bone marrow cannot circulate.

Blood plasma is prepared for preservation over long periods. No means have been discovered for preserving and shipping red cells in the same manner, but when these cells are put in some favorable solution they can be used within one week after the blood has been drawn from a donor.

Three months ago the Detroit center undertook the preparation of this solution, saving all red cells instead of treating them as waste, and less than a month ago delivery of the solution was undertaken to nearby hospitals.

"This means that the blood banks in these hospitals may be tremendously supplemented," Dr. Cooksey said. "In any general hospital from 50 per cent to 60 per cent of patients needing new blood, either by direct transfusion or from the blood bank, are clearly cases in which the red cell solution serves just as well as the transfusion of bank blood. All red cell solutions are typed, as in direct transfusion blood or that preserved in blood banks.

"Red cells are universally needed in anemia cases. In cases of shock, only blood plasma is needed, for in shock, plasma, the fluid element of the blood, is rapidly absorbed by the body tissues. Use of the red cell solution has proved to be a remarkable aid in the treatment of various types of anemia."—*Science News Letter*, February 27, 1943.

Be not afraid of life. Believe that life is worth living, and your belief will help create the fact.

—*William James.*

P. R. N.

The Jocular Jingles of C. G. F.

by

Charles G. Farnum M. D.

Peoria, Ill.

SEASONABLE SONNETS

MAY

With us the first of May brings childrens play,
In other countries anarchistic deeds;
No more we shiver through a frosty day,
Instead we mow the lawn and pull up weeds.
A sharp eyed bird peers out from shaded nest,
The dandelions cover lawns with gold;
On Mothers Day that one with whom we're blest
Is justly given honors manifold.
The gardens now are coming into flower,
Profusely blossoms carpet all the hills,
The song birds fill the air from leafy bower,
It's summer clothes instead of fuel bills.
For women every day is decoration day,
For soldier dead it comes but once a year, in May.

SPRING

The dogwood now is barking, the skylarks are sky-larking, the humming birds are humming in the trees. I see the cowslip slipping, the catnip shyly nipping, the weeping-willow weeping in the breeze.

The cauliflower is calling, the cat-tails caterwauling, the daffodils are daffy on the lawn. The bumble bee are bumbling, the tumble-bugs are tumbling, the pussy willow's purring at the dawn.

The crocuses are crowing, the sweet sweet-william growing, there's music from the canterbury bells. I know that Spring is springing when blue-bell bells are ringing and cuckoo's coo with gladness in the dells.

HATS

Each wife comes home with a thing on her head,
A thing that she calls a hat;
It fills one full of a shivery dread,
This awful thing that she wears on her head,
But fashion decrees it be that.
Cheer up, styles always are changing 'tis said,
Such freaks can not long abide,
Yet hats that come may be much worst instead;
If things like these are on top of her head,
Just what may be hope for inside?

Geriatric Jocularities.

Uncle Avery was one hundred years old so I went out to his home to congratulate him. He puffed away at his pipe, looked at me rather quizzically and said, "What fer, today's jes' like any other day."

I asked him what he had done on his hundredth birthday. "O, nothin' much. Jes' chopped a little wood an' went out in the timber an' shot a few squirrels."

I asked him how long he had smoked a pipe.
"I dunno. 'bout 90 years I guess."

"That's a long time," said I, "and I suppose you smoke it all the time."

"Nope, Nope," and his eyes twinkled, "only when I'm awake."

"Well, Uncle Avery, a hundred years is a long time to live. And I suppose you have never taken any vitamins."

"Nope. I never take none o' them fancy drinks. Jes' reg'lar licker. Four, five nips a day. Kinda makes ye feel better."

A hundred years old that day!

IT IS SPRING

When the sun outside is gleaming,
And you find yourself day-dreaming,
And of routine you just cannot get the swing:
When there is no concentrating
And your thoughts are all migrating,
It is Spring.
When you cannot keep on working
But devote your time to shirking
And your conscience gives you many a gentle sting
When your mind seems dull and hazy
And you know that you are lazy,
It is Spring.
With the gentle zephyrs purring,
Though your conscience is demurring,
You abandon all your work and gaily sing
Of the birds and bees and flowers
Of the grass and leafy bowers —
It is Spring.

Professor Paresis admits that it may give one a lot of satsifaction to tell a man just what you think of him but it is rarely worth what it costs.

Tuberculosis is a chronic disease but in times of stress with restrictions on diet and hygienic living, its frequency always increases. Already the rates are beginning to rise, even in this country, and abroad there are hints that tuberculosis is taking its usual war-time toll. Ann'l Rep. Saranac Lab. for Study of Tuber., 1941.

May, 1943

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